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ELECTION IN HIGH SCHOOLS

I AM about to discuss a question respecting which at the present moment there is a wide difference of opinion. In this age, whose rapid advancement defies prophecy and exceeds hope, we must all acknowledge the right of individual judgment, whether that judgment is based upon observation, imagination, or experience. I do not arrogate to myself a greater wisdom than I acknowledge my peers to possess, and I bow graciously before the conclusions which a deeper knowledge and a richer research have forced upon my superiors.

In the economy of the Divine architecture, as exhibited in the marvelous divergence of mental traits, there has always been a conservative contingent that has prevented the inauguration of any new movement in its entirety, that has blocked the wheels of reform and progress for a time, that has insisted on the ways that were being better than the ways that are.

I respect that conservatism because I believe its chief elements are caution, a religious desire to be self-cultured and well-poised, and a commendable zeal to make haste slowly when changed conditions seem to threaten established traditions. Conservatism is necessary as a check upon such a sudden inauguration of radical reforms as to shock an apathetic and unthinking community.

But conservatism unopposed, left to its stagnant conditions means debilitation, decrepitude, decay. There are many people, professedly learned, who are so environed, so biased, and, shall I say it, so selfish, that they will with stubborn energy decry a theory until its truth has been absolutely demonstrated in practice, and will throw every possible obstacle in the way of its demonstration, because they *are* opposed to the theory.

For such I have no sympathy; with such I have no patience. They hold the same relation to reform, in an opposite direction, as the anarchist holds to government. The one brooks no changes, the other brooks no stability. The one worships tradition, the other tramples upon it. Neither is justified, both are a plague.

I believe in experiment. Every advance in every field of human activity for five thousand years has been the result of patient, plodding, persevering experiment. Continents have been discovered and wild wastes reclaimed; mountains have been leveled and valleys made to blossom; the bowels of the earth have been explored and the material of the sun analyzed; details of disasters reach us before they occur, and the world is reduced to a conversing community. Conservatism and caution, however, have brought none of these changes to pass. They have all been wrought through the power of reasoning and the pluck of radicalism.

Every step of progress the world has made has taken place against opposition the most violent and vicious, and the good accomplished has been in direct ratio with the opposition encountered.

What has been true in the material world, in the industrial world, the commercial world, the world of exploration, discovery and invention, has been equally true in the educational world. The rate of progress, however, has been slower here than in any other department of human endeavor, because education fosters conservatism, and educators prefer to teach as they were taught, and thus the sins of the fathers have been visited upon the children to the third and fourth, yes, to the thirty-third and thirty-fourth generation of those who knew no better. Our institutions

of learning are deep-rooted in the soil of mediæval monasticism. Notwithstanding all the social, industrial, and religious changes that have marked the passing centuries, we are still more or less fettered by tradition. If the same influences had held sway in transportation, in agriculture, and manufacture, which have controlled our educational affairs, we would still be riding in the stage-coach, using the tallow dip, breaking ground with the hand-plough and receiving intelligence from Hong Kong once in six months.

What was true in the time of the Renaissance is not true today; what was important then is waste now; the manna of culture then was only for the few; now the multitude is to be fed, and since no miracle-maker walks among us, the five loaves and the two fishes are not enough.

Language study was the turret and foundation, the corner-stone and cap-sheaf of the old education, but of the new it will be simply the foundation, and only a part of that.

For over two hundred years there was absolute lethargy, the seeming inertia of stagnation in educational affairs. To be sure a light blazed forth here and there, now and then, and has never gone out, but the world in general has sat in the shadow of the cloister and worshiped idols. The establishment of every technological school, every normal school, every so-called business college, yes, every public high school in all our broad domain, was a protest spoken modestly at first, but now thundered against the unjust demands of our higher institutions, whose roots I have said received their nurture from the soil of tradition. All my public utterances and all my private endeavors the last few years have been in the direction of producing a spirit of harmony between what the colleges would like to have and what the public schools were made to supply.

I have no warfare to make upon the private schools or academies. They are unique institutions. They were designed to be tributary to the colleges. The stream flows direct to the ocean. There is not the slightest change in the current, and the banks are always the same. To change the figure, the college is the master, the private schools the serfs; the one dictates, the other

obeys. It is purely a case of demand and supply. Were some private academy, for instance Morgan Park, able to accommodate all the boys (heaven help the girls), who proposed to enter our neighboring university, it would be necessary for the university only to publish its requirements, and the academy, if given time, could easily see them fulfilled. There would then be no need of conferences for coöperation and interchange of opinions. There never has been and there never can be any vital connection between the colleges and the high schools, based upon such an arrangement.

The high schools are not and cannot be college preparatory schools in any such sense. Let us suppose, however, this to be their special mission, and that they awaited the promulgation of a curriculum that would express the views of every member of the faculty of some great university as to the subjects to be pursued and the amount of work to be accomplished in each, do we not all know that the program would be one that could not be completed in ten years?

From the department of ancient classics would come the arguments hoary with age, and honored by tradition, demanding a large place for Latin and Greek; equally forcible and more utilitarian would be the claims for the modern languages, including the mother tongue; some would maintain that modern foreign should precede the ancient, and others that the ancient should antedate the modern.

The mathematician, in close-knit logic, would expound the importance of plane and spherical trigonometry and all that precedes it as fundamentally essential for the best superstructure, while others would laugh at such presumption.

The scientific professor, all enthused with the worship of nature, in its intimate and intricate relations to the daily life of man, would scoff at the immoral waste of human life in the study of classic mummyism, and prove beyond controversy that the child should become acquainted with his environments, and have his eyes and ears and heart and brain opened and awakened to the sights and sounds and beauties and potencies of the earth and air and sky about him, all filled with the developed and

undeveloped agencies for man's utilization: physical geography, physiology, biology, physics, chemistry, astronomy, he needs them all; then comes the man who prophesies the future from the past and says that history, ancient, mediæval, modern, English, American, is essential that the child may connect himself with the past and understand the age in which he lives. The program is by no means complete. There should be of course no abatement of the study of literature from earliest childhood to latest age, and we must not forget the advocates of psychology, without a knowledge of which there can be no correct teaching, no respectable parental training; nor the advocates of sociology, civics, economics, commercial geography, commercial law, the history of industries and transportation, of commerce, each and all giving the child a proper mental balance in his relations to business pursuits. I do not mean to be farcical, I mean to be logical, and I challenge proof to the contrary of my statement that there are not three men in any institution, representing different departments of human knowledge, who could agree upon a curriculum of studies for all the pupils of our public high schools, and, if they could, the public high schools would not accept their conclusions.

What then is to be done? Will the college and the high school each pursue its own way regardless of the other? Perhaps so, but the high school will not suffer thereby.

What is this institution called the high school? Whence came it, and whither is it bound? What are its obligations and its limitations? Who own it and who have a right to control it? Space will not permit an anwser to all these questions, but surely there are some things that it is not. Although all our educational institutions have developed from the top down, the high school will not acknowledge itself to be the offspring of the college, but rather the child of the people, legitimately born in the order of Providence.

Its function primarily and specifically is to supplement and amplify the work of the elementary school. In the evolution of civilization, during the last fifty years, more than one third has been added to the sum total of human knowledge, and,

therefore, four years of study beyond the elementary school will not give the children of today any broader horizon than their fathers had a half century ago.

The high school is not for the purpose of gratifying the whims and fancies of the teachers, whether of the school or college. Too long have prejudice and selfish egotism prevailed in the making of programs. Neither psychology nor common sense (I use them as synonyms), has been allowed to come in to abate the bias or calm the passions of men who have fought for their favorite study like half-backs on a football field. It is about time for us to awaken to a realization of the truth that all schools are, or ought to be, for the welfare of the child, for the development of those talents the protoplasm of which has been implanted by the Divine Architect, and that, however magnetic, or eloquent, or profound we may be, it is impossible for us to build in the child or to make out of the child that of which the Creator has not first planted the germ. It is the study of the child, then, that demands our thought, investigation, and research. We must know something of his tastes, his talents, his needs, his limitations, his possibilities, that we may economize his time, secure his confidence, and aid in bringing the best that is in him to its highest perfection.

We have arranged our educational programs for a purely imaginative creation, an automaton, a *genus homo* whom nobody ever saw, and neglected all the species, the real, living, breathing potentialities of the universe, whose tastes and talents are as infinite in difference and diverse in possibility as are the illimitable powers of the architect of the heavens, the earth, and all therein contained, whom we call God. Sameness is not stamped upon any two of the divine creations. In nature no two germs are alike, and the influence of sun, shade, and soil in their development are unlike. In the one case the violet sweet, in the other, the stalwart oak; each performing its own but neither the other's functions. When one comes to the highest creation, man, the manipulator of nature, fashioned in the image of his Creator, we neglect this principle of infinite diversity and act as if there were some fixed intellectual diet that all young people needed in

order to insure the full fruitage of divinely implanted germs, notwithstanding the fact that the world groans beneath the burden of professional and business failures, the result of misguidance in the preparation for life.

The public school is to be the school of the people, with a program rich in language, history, mathematics, science, civics, commerce, manual training, economics and household arts, and any and every study which makes for moral integrity, good citizenship, noble manhood and pure womanhood.

Only that knowledge which is assimilated and appropriated becomes real education. In the unfolding of the mental powers there must be garnered the largest possible amount of useful potential knowledge, which may be applied in the conduct of every business, in the success of every profession, in the amelioration of humanity, in the development of civilization, and in the blossoming of all those graces which are the crown of true citizenship in a government of the people.

Unlike Mr. Briggs in the *Atlantic Monthly*, I am writing my views, not my doubts, and giving expression not to a mood but to a conviction. He says the new education has made three discoveries, of which the first is: "Education should always recognize the fitness of different minds for different work." He then proceeds with his doubts, and essays to laugh the proposition out of court. The discovery, however, still remains. The emancipation proclamation has been issued; long since the colleges, with Harvard, the oldest and greatest of them all, leading the way, broke the shackles that bound them within the limited horizon of the past, and proclaimed freedom to those who bowed at their altars.

Humanity, individualism, is to be the paramount issue in education. The professor who believes that there is no substitute for his specific, that the decoction which he brews in the inner cell of his cloister is essential to all real intellectual growth, no longer dictates the curriculum. The student himself makes his choice, and notwithstanding the jeers and gibes of those who scoff at the plan, and claim that he seeks for "snaps" in his studies, the proofs and the truths are all to the contrary. What

is true of the college is measurably true of the high school. These colleges of the people, supported by the people, for the education of the people, must in a large measure meet their demands, accede to their wishes, respect their opinions, on the ground that taxation and representation in republican institutions are inseparable. We are familiar with the reasons urged against the principle of election in high schools; the immaturity of the pupil; the dormant condition of the talents; the absence of vocational plans; the danger of selection along the lines of least resistance; the claim that power, power to think and to do, the end of education, comes through the mastery of the distasteful and the difficult. The principle of election, a very unfortunate term, does not ignore these things. It is not intended in its application to give the pupil a complete choice of subjects, leaving out of consideration the aid and counsel of parent and teacher. The principal and teachers will always be the most potent factors in the arrangement of every child's curriculum. The parent has a right, however, to intervene and give his views, and often, very often, the child is the wisest judge of all. Neither do I quarrel with those who would have some constants in secondary education, provided there shall be no hard fast rule to which there can be no exception.

That a pupil must have four years of Latin, or three years of mathematics, or two years of any specific study, in order to receive a diploma is absurd, and such regulations have been endured only because of the infinite patience of a longsuffering constituency. For a college to demand of a student some knowledge of three foreign languages before he is allowed to cross its threshold to secure a higher education in accordance with some well-defined plans, is equally unjust, irrational, and undemocratic.

The high school is to be an institution where the dominant interests of the individual child are to be served; where general culture through a variety of studies responsive to the aptitudes of the pupil is to be secured; where the hand and eye as well as the heart and head are to be trained to their best uses; where the physical and the moral are to receive due attention with the

mental; where, indeed, the pupil, by different methods adapted to different needs, is to be put in possession of those means by which he may secure a useful, contented, and happy livelihood. The Procrustean system of education is a thing of the past; no fixed curriculum for a large class of pupils will longer be tolerated. There must be wide scope and large flexibility in school programs. Studies should be selected for or by pupils, not to please whims or satisfy prejudices, not to deplete one class nor to fill another, not to make an easy working program nor to lighten any one's labors, but to give to the pupil that which it is within his power to appropriate, assimilate, and utilize; that which will make the years that ought to be devoted to school life enjoyable and profitable, those studies that shall so enrich the nature, develop the character, and inspire the soul, that he may feel that to him there is no place like the school. This can be done only when teachers are so cultured, so trained, so filled with the altruistic spirit, that any study will be measurably attractive under their instruction, and when the pupils themselves shall be in possession of a natural rather than an acquired aptitude for their studies. Instruction must be excellent, and the attitude of the pupils subjectively pleasing.

How old and yet how pregnant with meaning the trite expression, "You may lead a horse to water, but you cannot make him drink." You may possibly compel a boy to go to school, but you cannot make him learn.

"Blessed be drudgery," and the more difficult the task the richer the gain therefrom, are beautiful theories; but not under such laws do flowers blossom nor fruit ripen.

The law of adaptation is everywhere prevalent in nature, and it has equal jurisdiction in education. Study is of little worth when the interest is not awakened. No one can set down in indisputable category the educational value of any study. Tomes have been written, history has been searched, lives of great men made sublime have been appealed to, to prove that the study of Greek is the greatest instrument that God ever placed in human hands for the development of mental power, but it is all an opinion. Equally incontestable is the proof which the advocates

of any other study bring forward to sustain their theory, and the world begins to think and to act upon the thought that the value of a study depends on the nature of the student and the character of his instruction.

The subject of elasticity in programs of study is dominating educational thought today, and you can no more stop its leavening power than you can stay the working of the natural laws of evolution. The few may contend against it and take up arms against a sea of troubles, but by opposing cannot end them. Man and his environment, nature and her laws, history and the warning it gives and the lesson it teaches, sociology in the relations to the development of harmonious conditions, the industries by which man is supported, art not for art's sake, music not for music's sake, but to impart an inspiration to life, to lend a charm to labor — these, and none more diligently, more pleasantly, nor more profitably, are to be studied in the colleges of the people, as teachers may suggest, pupils desire, and parents dictate.

I cannot better close this appeal for a rational election in high-school programs than to use the words of Comenius, whose burning thoughts, smothered for two hundred years, are bursting into a conflagration that shall reduce to ashes the medievalism and charlatanism of our modern education.

"The attempt to compel nature into a course into which she is not inclined, is to quarrel with nature and is fruitless striving. Since the teacher is the servant, not the master or the reconstructor of nature, let him not drive forcibly when he sees the child attempting that for which he has no skill. Let every one unhindered proceed with that to which, in accordance with the will of heaven, his natural inclination attracts him, and he will later be enabled to serve God and humanity."

A. F. NIGHTINGALE

LIMITED ELECTION IN HIGH-SCHOOL WORK.

THE following program of studies was framed with these principles in mind: First, that the future school will pay great attention to the development of the individuality of the child. We shall cease to believe it wise to attempt to mold all children to one pattern and to base their instruction upon the same limited assortment of useful knowledge. We shall cease to believe that there are any divinely ordained whetstones or sharpeners of the mind, but will consider not so much what one studies as how he studies it. We shall cease to believe in the doctrine of formal discipline.

Second: The student should form his own course of study, choosing what branches he pleases, as many or as few of them as he pleases, and continuing them as long as he pleases. This does not preclude the consideration of the advice of parents and teachers and friends, but will leave the responsibility for his work upon the pupil, where it belongs.

Third: If a pupil chooses his own work he will work under a livelier sense of responsibility and with a fixed purpose in view. Nothing will do so much for the student as working with a definite motive behind and a fixed goal before. The earlier this sense of responsibility for the management of his own affairs is awakened in the student the better the results will be in the end.

Under this arrangement the old subjects—Latin, Greek and mathematics—will still be studied and studied more effectively than they are now. The student who pursues these subjects with a fixed purpose and with some feeling of ability to carry them on successfully will do more and better work than he will when they are presented by the powers that be. If the student aims at preparing himself for a definite course in a definite college he will be able to select those things that will advance him most rapidly and most surely toward his goal. He will be able to cast aside, either temporarily or permanently, many things

that he is now compelled to take merely because some one thinks they ought to be in every well-regulated course of study.

Under an elective scheme some provision will be made for the class of students who are not attracted by the Greek, Latin, and mathematics. The student will take so much or so little of the old studies as will assist him in his work in drawing, science, business or mechanical courses; and, studying them with a fixed purpose, will do them better. The boy with an executive turn of mind, who is aiming at work in the business world, will be able to find employment in our schools, and will do good work as well as his more receptive neighbor who is able to get nutriment out of the classics and mathematics. Our schools will then be common schools, schools for the people, and not schools for the class who are fitted for the professions by nature or by circumstances.

Under the elective scheme the pupil will be interested in a subject as a subject and not merely as a subject taken because others take it. Each student will take as much work or as little as his health, mental ability, and opportunities will permit him to do well, and he will in a measure cease to worry because he is not doing the same thing at the same time one of his neighbors is doing it. This will allow a leeway for the extremely bright boy as well as for the dull one. Under this scheme the dull boy will not be marked out so definitely for criticism because he is not in the same class with some neighbor who started at the same time he did. The dull boy's self respect will thus be preserved longer and he is likely to stay in school until he accomplishes something worth while.

Under the elective scheme our students will stay longer in the high school. They will not feel that there is any vital necessity for getting through at a fixed time and graduating with certain specified individuals. There is enough work in any of our modern high-school programs to employ a student for six years. The student whose circumstances will not permit his entering college can obtain an education that will fit him thoroughly for the work of any ordinary profession. I believe a program should include work enough to carry a student in

the high school up through the sophomore year in an ordinary college course. The elective scheme will enable us to accomplish this without any violent wrench of the opinions or prejudices of the public. We shall have secondary schools that will fit the student for a true university without anybody's knowing anything about it.

As an attempt at a practical application of the ideas suggested in the foregoing paragraphs, the course of study in the Lyons Township High School was prepared. A description of it follows.

The work is outlined under ten groups labeled Latin, Greek, German, French, mathematics, science, English, history, business, and manual training. Four years' work in Latin, two years' work in Greek, two years' work in German, two years' work in French, four years' work in mathematics, four years' work in science, three years' work in English, four years' work in history, two years' work in business, and two years' work in manual training, are offered.

As, owing to the size of the school, we were unable to duplicate the course in French and German, we deemed it best to prescribe two years' work in Latin as a prerequisite for the work in Greek, German and French. In the science group the work in physiology is prescribed by law so that no election is possible. Our course in physics was of such a nature that we deemed it advisable to prescribe two years' work in mathematics and one year in science as a prerequisite to it.

In the work in civics we believed it would be advisable for students to take the work in English and American history before entering the class in civics and economics.

There is no philosophical reason for confining the work in English to three years, but it was our expectation that later we would add to the course in English another year. It was impossible at that time to make a working program for students who were preparing for college, if we required four years' work in English. I believe, however, that four years' work should be prescribed in every American high school.

The course in the business and manual-training groups has

not been thoroughly worked out. We lacked some of the apparatus necessary to carry on a good course in commercial studies and work in iron. It was expected that later both these groups, 9 and 10, would be remodeled and extended.

Below is found an outline of the work of the Lyons Township High School, laid out in the ten groups before mentioned:

COURSES OF STUDY BY GROUPS.

Group I. Latin — Must be taken in order. 1) elementary work; 2) Caesar and prose; 3) Cicero and prose; 4) Virgil.

Group II. Greek — Prerequisites, courses 1 and 2, group I. 1) beginning Greek; 2) advanced Greek.

Group III. German — Prerequisites, courses 1 and 2, group I. 1) beginning German; 2) advanced German.

Group IV. French — Prerequisites, courses 1 and 2, group I. 1) beginning French; 2) advanced French.

Group V. Mathemathics — Must be taken in order. 1) beginning algebra; 2) plane geometry; 3) solid geometry and algebra completed; 4) plane trigonometry and higher algebra.

Group VI. Science — 1) physiology and physiography, required; 2) chemistry; 3) biology — (*a*) botany, (*b*) zoölogy. Courses 1 and 2 of this group required; 4) physics. Courses 1 and 2 of group V, and course 1 of group VI are prerequisites to physics.

Group VII. English — to be taken by everyone; 1) composition and rhetoric; 2) English; 3) English.

Group VIII. History — 1) Greek and Roman; 2) medieval and modern; prerequisite, (1) of this group; 3) English and American; 4) civics and economics; prerequisite, (3) of this group.

Group IX. Business — 1) bookkeeping and commercial arithmetic; 2) to be filled in later.

Group X. Manual Training — 1) bench work and mechanical drawing; 2) to be filled in later.

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PROCEEDINGS OF THE SOUTHERN ASSOCIATION OF COLLEGES AND PREPARATORY SCHOOLS

SOME PROBLEMS OF THE ELECTIVE SYSTEM

C. H. THURBER

Few educational questions have been more widely discussed in the last ten years than the general subject of electives. If there is any remote domain of this territory left unexplored, I certainly am not optimistic enough to believe that I shall discover and explore it in this paper. The whole question is one of great intricacy, having many ramifications and reaching out in its ultimate bearings to nearly every phase of educational activity. Rather than attempt a superficial, bird's-eye view of the whole territory, I shall attempt to confine myself to the discussion of certain definite, important, and well-recognized high-school problems and the bearing which the elective system may have upon their solution.

The first problem to which attention may be called is the problem of differentiation. By that is meant the sifting or selective function which the school performs. This is a modern problem. When only a few were educated at all, and those few selected before their education began for a special place in society, that is to say, when there was a specific educated class, and a small class at that, there was no sifting to be done. The material presented to the school might, indeed, be quite various, but the function of the school was to make out of it, by some mysterious process of transmutation, one uniform product. Now, however, education, and even higher education, has become universal, in the sense that it is universally accessible, and the functions performed in the community by educated men and women are numerous and most varied. A whole universe of new intellectual activities in science, mechanics, commerce, even literature and art, has been thrown open to stir ambition, rouse aspiration, and entice to its conquest. An absolutely uniform product is no longer demanded or expected from the higher schools of any country. The problem in every civilized country that has seriously set itself to the task of educating its people is how best to differentiate somewhere in the school course the

different classes of students who are ultimately to take quite different positions in the active world.

The different grades of the school organization have been curiously self-denying in their attitude toward this problem. The college has been of the opinion that the process of differentiation should be postponed to the university career or that it should be performed in the secondary school. The university has been quite clear that it should be accomplished somewhere before the university grade. The secondary school is inclined to the opinion that this honor and responsibility might better be referred to the grammar and elementary grades in order that their humdrum routine might be enlivened and vivified by the addition of this high duty. The whole situation reminds one of the caricature of a band of public plunderers in one of the comic weeklies. The question under the caricature is—Who stole it?—and the distinguished group of bandits standing in a circle is each one pointing to his neighbor. To the question, who shall bear the responsibility of this differentiation or sifting process, the various units of the school organization point each solemnly to some one of the other units.

But after all that is only a passing phase. The schools cannot shirk, nor do they wish to shirk this responsibility permanently; and after careful study and due deliberation the matter is settling down pretty well to the belief that the real place where this function is to be exercised must be in the secondary school. The period when individuality develops is the period of adolescence; then it is that manhood dawns in the boy, womanhood in the girl; then it is that those ideals are born and those visions seen which give direction to all after life and color all mature activities. It is true that at the present time the secondary school period does not correspond exactly to the period of adolescence but the most fruitful years of adolescence, the most significant years, the most hopeful years, the most determining years, do lie within the secondary school period. Here then this great new function of education is to be exercised.

But how? Various answers have been given to this question. In Germany, as we know, the secondary schools are of totally different types, taking the child at the age of nine or ten, much below our high-school period, and carrying him through an education which shall fit him for either the learned professions or the technical professions or a little of both as in the real gymnasium; but after the age of entrance there is practically no possibility of switching over from one track to the other. The differentiation is made, then, not in the school but

before the child enters the school. The function of the school is simply to fix upon the individual a certain stamp and to guide him to a fixed goal, and the stamp and the goal are perfectly well known before the child is placed in the school. In other words, neither the child nor the teacher nor the school acts in this sifting process. The determining factor is the parent who decides when the child is at an early age and has had no opportunity to disclose his capacities just what career he is to follow. What determines the parent is largely social ambition and the financial ability to gratify that ambition; the nature and capacity of the child is not in the least regarded. It is a purely objective system of secondary education.

In France, the differentiation has been postponed somewhat later in the school course. In the last twenty years endless experiments have been made there in the direction of a more adequate differentiation of secondary school curriculums. And in so far as the differentiation has been postponed to a later date, that country has evolved a better system than prevails in Germany. But here again it does not appear that the differentiation is based upon any real study of the aptitudes of the child. Here again it takes place rather too early for the individuality of the child to develop. And, after all, the differentiation does not amount to very much. Moreover, the modern courses, as they are called, are carried on in the same buildings with the classical courses, and owing to the long and undisputed sway of classical authority in French education, everything that is not classical is distinctly bourgeois, plebeian, a social outcast, an educational pariah. Indeed, neither Germany nor France shows us the best foreign attempts made at the solution of this great problem. We should probably have to admit that the Scandinavian countries, particularly Sweden, have taken by far the most advanced and reasonable position on this matter.

But what is the bearing of the elective system upon this problem? No other country, I think, has gone so far in developing the elective system in higher education as our own. By higher education I mean here what we would speak of as high school and collegiate education. The elective system is so completely recognized everywhere in university work that we can leave that out of the question. The elective system in its essence means the adaptation of the studies to the individual. It does not mean the choice of the individual between two or three or four definitely prescribed groups of studies which we call curriculums. That sort of thing is the compromise between the old and the new, representing a doubtless necessary and inevitable

transition stage, but nothing more. The ideal curriculum is the individual curriculum; and there is no limit, except that set by the mathematical law of permutation and combination, to the number of individual curriculums that may be developed in a school. There is no necessary limit, either, to the number of different studies that may have admission to the curriculum except the number of possible human interests and the financial ability of the school. The selective process here becomes *a self-directed process of selection on the part of the pupil.* The selection is subjective, not objective. The choice is not imposed from without by parent or state or church or teacher, but compelled from within by the natural inclinations and capacities of the pupil. The students sort themselves. This does not mean a condition of chaos and anarchy: it does not mean yielding to whim and caprice: it does not mean a *laissez faire* policy on the part of principal and pupil. What it does mean in all these respects will be touched upon in the further discussion.

The next great problem is that which is perhaps most generally treated under the head of mental discipline, or the dogma of formal discipline, or something or other of that kind. This differs from the problem of differentiation in that, while differentiation is new, mental discipline is very old — hoary with age; indeed, one might almost say, in a senile second childhood. Yet it has had a long and respectable career, still exercises wide dominion, and is a factor to be reckoned with. There are many phases to this problem. Its importance is emphasized in many ways. It is said that the mind must be exercised by intellectual gymnastics just as the body is by physical gymnastics; that the different faculties of the mind — memory, will, emotion, and what not — must receive each its appropriate training, and that one subject is good for training one faculty, another for training another, and another for training them all. Of all these statements the last is the most unimpeachable, for there is a good deal of doubt in modern psychology, more than that there is radical unbelief in the old faculty theory. The mind is *one thing*, manifesting itself in different modes of activity. Then whatever feeds the mind tends to strengthen all forms of its activity.

But not to go too far into the land of psychological theory, which, some hold, is foreign soil for a teacher, it may be agreed on all hands that an acceptance of any theory of formal discipline carries with it some theory of educational values. That is to say, if we are to train either special faculties of the mind or special activities of the mind

through special subjects, we must know, or *guess that we know*, what the special value of each subject in the program of studies may be. A good deal of writing, and some little thinking, have gone to the elucidation of this vexed problem of educational values. And still the wonder grows! It may be fairly doubted whether there are any two people living who have thought seriously upon this subject and have formed opinions of their own, who would fully agree upon the educational values of the different subjects constituting the program. How shall we base any system of education, how shall we found any important function of education upon such a basis of shifting sand? Moreover, any discussion of educational values inevitably carries with it some theory of the superiority of one or more subjects over others. Most of us would probably be inclined to think that the particular group of studies which we ourselves have pursued, constituted on the whole the superior group, and that the one study to which we had devoted most time was the aristocrat of the whole settlement. But here again there is bound to be disagreement, and the disagreement is likely to wax warm, and occasionally even hot. Is it necessary, as has often been assumed, to require, as the foundation of our educational system, the determination of educational values upon some generally accepted scale, the establishment of an hierarchy of subjects? The atmosphere of here and now is not favorable to the growth of any new monarchies of any kind. The mind has risen in rebellion and crushed the tyrant of authority in every other field sooner than in the field of higher education. There, too, a free democracy must prevail, and each subject be studied because of its own intrinsic worth to the individual, because the one who studies it finds in it interest, beauty, stimulus, and power.

But there is another phase to this problem of formal discipline which is roughly illustrated by the classic case of the great man who forces himself regularly to do every day something that he does not want to do, for the sake of the moral discipline. It is a good thing, it is said, for boys and girls of high school age, who are inclined to rebel against authority anyhow, to be compelled to study and to learn some things which they do not like, to learn that they have to submit themselves to the eternal order of things in the universe. It seems a trifle ambitious—does it not?—to assume that the order of the universe is fully and accurately reflected in any given school curriculum. Those who know most about the construction of school curriculums, however, might doubtless agree that they must be ascribed

to blind chance or an overruling Providence, for certainly the *nous* or ordering reason does not seem always to have been around when they were made. At any rate, we are brought to the question, shall we force the children to do certain things because we think it is good discipline for them, or shall they do things because of interest?

What is interest? To many a man who has a note out, interest is usury, and to many an educator interest is something equally illegal, abominable, and altogether accursed. To do a thing because we are interested in it is to many minds a sign of weakness, effeminacy, namby-pambyism, lackadaisicalism; it denotes a general weakening of the whole intellectual and moral fiber. To some it represents the conflict between love and duty, but that is not a fair comparison, because duty, as well as love, often involves an element of interest.

Interest may be of the simplest kind, immediate, or it may be mediated through a chain of factors; but it is certain that the grown man or woman never does anything in which he or she is not interested unless under the force of absolute compulsion. Every man does innumerable things almost every day which in themselves he would not do for the pure joy of it. They are a part of the daily grind, of the everlasting treadmill of existence, but they are done cheerfully and zealously because doing them leads to something that is desired, and in which there is a warm and intense interest. The immediate interest is really the weakest of all the interests governing life; and duty may have the highest interest attached to it. It does not necessarily involve the acceptance of any crass theory of hedonism to acknowledge the sway of interest in the affairs of men.

But—and this is the important point in this discussion—we do things either from interest or from compulsion, and from no other reason whatever. We may compel ourselves, it is true, but that is always in obedience to interest. The compulsion that is a real motive in our lives is always external, objective, and frequently if not generally irksome. The whole secondary school system of Germany is dominated by iron compulsion. This does not take the form of physical force; the pupils are not chastised if they do not learn this or that, but they absolutely must go through the prescribed treadmill in order to attain certain very much desired prizes at the end, prizes whose value cannot be rightly expressed in American terms. There is one way to travel, and only one, to reach the goal they must reach. In a monarchical country there may be some justification for the consistent, uniform employment of compulsion as a method of education; in

a republic, however, is it better to accustom the youth to act in all capacities from a high interest or from compulsion? To ask the question is to answer it. Then we must bear in mind, too, that compulsion is fortunately impossible in this country. If the high-school or college course is not made such that it appeals to the young people, they simply do not go to the high school or college; they go to a private school, to a trade school, or go to work.

We hear a good deal nowadays about education for citizenship in our schools. Which process is calculated to make better citizens, the process of free election in which pupils are trained to exercise their judgment in choosing according to enlightened interest, or the process of compulsion by which they are driven to pasture like a flock of sheep and kept within bounds by fences that constantly need repair? The excesses of the German youth who leave their secondary schools and go to the university, in the first year or two of university life, are notorious the world over, and many people believe they are simply the reaction against the code of compulsion of the secondary school period. Under these excesses, many of them die, a good many of them leave the universities, and those who survive, as Bismarck says, rule the nation; but it is a horribly rude process of the survival of the fittest. Better far — is it not? — especially in our republican land, with our democratic institutions, that the ability for self-direction according to high and educated and wisely directed interest should be systematically cultivated, so that on leaving the secondary school period the boys and girls, the products of those schools and that training, shall be fitted to exercise the freedom of choice which then comes to them inevitably, whether in life or in higher education, and thus shall not take a plunge to destruction in the life-giving waters of freedom. If the matter is put upon ethical grounds, the case is still clearer. There is nothing moral about compulsion, and to do a thing because one has to certainly cultivates no moral quality, except possibly that of blind obedience, and this is as often likely to be the obedience of a prisoner in his cell as any other kind. There is nothing moral about submitting to overwhelming force; it may be common sense to do so, but such submission develops no high moral qualities.

The problem of the conservation of the individual next demands attention. We hear it said, on the one hand, that this is an age of excessive individualism; and, on the other hand, and more frequently, that democracy tends to bring all things, all men, all institutions to a dead level of equality. The old notion of Helvetius that all men are

equal at birth and simply different through environment is pretty well abandoned in our thought. To make a genius, according to him, all you had to do was to take any average individual and put him artificially in the conditions in which genius is developed. Granting all that can be urged for environment, we still believe that there are individual differences imparted by nature, that Rousseau had a good deal to recommend his view. The modern ideal is, or should be, to preserve the individual in society; to get, that is, the best out of the individual as an individual and also in his social relations. The excessive development of individualism may become obnoxious in special cases, and such obnoxious idiosyncrasy education ought to inhibit wherever possible. But if we are to avoid a dead level of uniformity, certainly we are not to aim in our schools at the manufacture of one uniform product, each made in the image of its maker and stamped with all the trademarks of pedagogical machinery.

There is no aristocracy of birth in this country, and educational privileges are open more fully to all than any where else in the world. To the schools then come all classes and conditions of boys and girls with all degrees of mental and physical and moral power, and all potentialities for development in innumerable lines. All are not intellectually equal. In order to meet the requirements of each individual, there should be not only election of studies but also election as to the number of studies. There is no reason in the nature of things why a strong student, strong physically as well as intellectually, should not carry five or six studies, nor why a student of moderate ability should not carry two or three studies. The school should be a *school*, a place to study under guidance and with the best facilities; not merely a thing to get through and to be graduated from in a definite, limited time under penalty of dire disgrace. The preservation of the individual in the high school is one of the most important problems; for, as has already been said, it is here that the ideals are born which shape the future life. The success or failure of life is generally determined in the high school period; and it is a slaughter of the innocents to repress the development of individuality at this critical time.

But there is another problem upon which we must touch, and that is the problem of the conservation of the teacher. We might say that the teacher was abundantly able to look out for himself or herself, but we know that there is nothing more deadening than the teacher's life when reduced to mere mechanical routine. The late illustrious English writer on education, Mr. R. H. Quick, has some pathetic passages

in his diary on this subject. A man of high ideals, quick sympathies, and wide grasp of educational problems, he was absolutely discouraged and broken-hearted by the petty routine of drudgery and slavery to which he was subjected as a master at Harrow. He was fortunately not obliged to stay there, having independent means, and having convinced himself that the teacher's life there was quite exactly the opposite of all that he thought a teacher's life should be, he left, bearing away with him, however, a feeling of disappointment which accompanied him through life. As opposed to the deadening influence of mechanical school routine, nothing is more fascinating than the study of the adolescent mind. This period is the most splendid and the most glorious in the whole life of the individual. To come into close and sympathetic contact with this expanding life, to direct its activities and its emotions into hopeful and fruitful channels, is one of the most attractive possibilities that can be offered to anyone. All true teachers have no doubt always felt this. But the possibilities of the teacher for this individual action and reaction are infinitely widened by the elective system. Such study, such personal contact, become a necessity under the elective system, which opens the way, too, for the exercise of the richest elements in the teacher's own soul. To become, in the highest sense, leaders, counselors, and friends is inestimably more inspiring for teachers than the weary round and round of treadmill routine in which they must struggle to preserve themselves above the level of mere taskmasters and slave drivers.

The elective system gives full scope for professional insight, professional tact, the highest degree of professional preparation, stimulus to wide reading of professional literature, encourages the profoundest study of all the problems connected with individual development, opens vistas of professional usefulness and intellectual and moral helpfulness to the teacher which call out the best powers in the teacher's nature. It has often been said that the old-fashioned ungraded school was the best school in the world. It is equally true that it was the worst school in the world. The old-fashioned ungraded school gave to a teacher of strong personality and high ideals an opportunity to impress that personality and develop those ideals in the pupils in a way that often resulted in the lasting admiration and gratitude of the pupils and the wonder of the beholder who saw so much accomplished with such feeble means. The tendency of our stupendous organization of education at the present time is to leave very little room for the personality of the teacher. Great is the loss when any organization is

permitted to crush out those elements which made the old ungraded school with a great soul at the head of it such a potent force. To preserve a place for the play of the teacher's individuality, for the development and activity of the teacher's highest qualities, is as important a problem as any other in school work, and no one factor contributes more strongly to the solution of that problem than the introduction of the elective system.

Another problem closely connected with that of the teacher is the problem of the high school principal. The higher grades of schools have increased enormously in attendance in the last twenty-five years in this country. We are told time and time again that the old type of college president has passed away. It is certainly true that in an institution of from 600 to 6000 students the president cannot stand in those individual relations to his students, cannot be the guide, counselor, and friend, cannot stamp himself upon the institution as was the case in the small college of from 100 to 200 students. Is not the case much the same in the high schools? Much the same, not precisely the same, because the functions of the college president outside his relations to the students are very different from those of the high school principal. The high school principal does not have to look after the finances of the school, secure money for endowments, and do the thousand and one public services which the college president is called upon to render. The college president has been in the past a teacher, sometimes discharging the full duties of a professorship. Now this is less and less true. Many presidents do not teach at all. This function of the president the principal has shared. He has been a teacher in the small school of 50 or 100 pupils, or even 200; the necessary administrative work, when there was a fixed curriculum through which all students had to go, was very slight, and a half an hour or an hour a day on the average saw it disposed of. But when the high school numbers 500, 1000 or 2000 members, with a corps of teachers as large as that of most college faculties, the duties of the principal become quite different. The question arises, then, whether he shall be a machinist or an artist; whether he shall devote himself to making out programs or to building up lives. Shall he become an expert in organization and administration, or an expert in the adaptation of the best pedagogical means to each individual case, a sort of physician to the mind?

The elective system undoubtedly makes very large demands, for its proper administration, upon the devotion, the zeal, the knowledge,

and the sympathy of a principal. It calls for an immense amount of personal consultation with students, teachers, and parents, and offers opportunities for personal contact with students which are presented in no other way. The student may easily be led to feel in these interviews, in which his future course is considered from the highest and most unselfish point of view by the principal, that in him he has a wise, just, and unselfish friend who understands and appreciates his difficulties and perplexities, his capacities and his weaknesses, and does not demand unreasonable things, nor discourage from legitimate aspirations. All this means, however, very large drafts upon the principal's time and nerve power. I feel like emphasizing this point somewhat, for I do not believe that it has as yet been fully recognized that the best results from the elective system demand exceptional care and labor on the part of the principal; and that in order that he may administer an elective system wisely and well he must be relieved, so far as possible, of mere matters of clerical detail, and also, to a large extent, if not entirely, of the necessity of class-room instruction. Unless this is done some part of the work is likely to suffer, and generally it will be the personal consultation and personal oversight; for other things must be attended to or there is an immediate tangle, while this can be omitted with only the result of an unvoiced and often subconscious feeling on the part of a student that something is wrong, that the world is out of joint, he does not know how or where. The elective system widens the opportunity of the principal just as it does that of the teacher, but it also increases his labors, if rightly administered; and until an enlightened public sentiment, expressed through action of the governing boards of schools, fully recognizes the principal's opportunities under the elective system as that of a pedagogical expert and educational counselor the richest fruits of the elective system in the high school will not be gathered.

But the elective system may be all that is claimed and hoped for it in the preceding discussion, yet, unless it adjusts itself to the college entrance needs, it will be to many but as sounding brass and a tinkling cymbal.

But there are really only two fundamental questions involved in this matter of adjusting electives in the high school to college entrance requirements — first an elastic system of requirements on the part of the college, and, second, the provision that no work previously done in the high schools need be repeated in college. Both of these conditions have been already met by colleges to a considerable degree. Those

colleges which have the greatest influence upon determining entrance requirements are most elastic in their scheme of entrance requirements. They seem to be continually striving to make these requirements more elastic. The Committee on College Entrance Requirements in its recent report takes the ground that every study taught in a high school should be accepted for entrance to college, and then proceeds to stipulate that the subject must be taught a sufficient length of time and by sufficiently good methods so as to make it thoroughly worthy of such acceptance, the chief emphasis of the report throughout being upon the proper teaching of the individual subjects so as to make them of practically interchangeable value for college entrance purposes. The standard, then, is to be both quantitative and qualitative, but not specific in subject.

This throws upon the colleges the necessity for providing proper continuation courses. It unquestionably simplified matters vastly to have a single course in the preparatory schools and a single course in the colleges, with a single set of entrance requirements. The small college will sometimes find it difficult to provide proper continuation courses where there is considerable option given in entrance requirements. It sometimes happens that a student having taken a subject in a preparatory school well enough to have it accepted for admission finds that on entering college he is obliged to repeat that study with students who had never taken it before. This is of all deadening processes perhaps the most deadening. But the more widely the colleges themselves adopt the elective principle the easier does the adjustment become.

There are still remnants of the notion that there are certain subjects that are too sacred to be taught in the high school; that if taught in the high school they must be profanely taught, so that college professors would sometimes prefer that students should never hear about their special field until they reach college, otherwise they are spoiled as scholars. I have heard that argument recently, and still more recently I have also heard that the world and its inhabitants were to be knocked all to smash by some vagrant comet, and that carrying a horse-chesnut in the pocket was a sure cure for malaria. The world did not come to an end on the specified date; the man with the horse-chestnut in his pocket has gone to the hospital with fever and ague; and the sacred studies of the college are being juggled about with the others in the construction of high school programs everywhere. All these medieval superstitions are doomed, and they know it.

What the high school can do for the colleges under the elective system is to send to them first of all students who go to college because they hunger and thirst for more of the good things of which the high school has given them a stimulating taste; who go to college after as prolonged a period as circumstances will justify of that sort of study which initiates them into the thought and achievements of the race; which, in short, "points to brighter worlds and leads the way." It is inconceivable that the colleges of the land will refuse to accept students who have had such a training as a good high school with a good elective system can give because of some difference of opinion between the student and the college faculty as to what the most interesting and profitable and delightful subjects are for a youth to study in the high school course.

I have attempted to show that there seems to be the best of grounds for believing that nothing else offers so much help in the solution of some of the gravest high school problems as the introduction of the elective system. And it has been introduced and is being extended, and is sure to go on from victory to victory. The chief danger lies in the careless adoption of a loose and unguarded system of election without due thought in schools which are eager for the newest thing out and are bound to have it at any cost. So far from the elective system being an easy system for the teacher or the principal, a *laissez faire* system, on the contrary, as I have attempted to show, while offering the widest possibilities and calling for the most splendid exercise of ability, it also throws a greatly increased load of responsibility and thought upon the persons who are charged with the management of the schools. It is of prime importance that whatever is done be done well, and the corollary is even more important that whatever cannot be well done should not be done.

There was a delightful state of affairs in education a hundred years ago. There was nothing but brotherly love anywhere. There was no disagreement, no difference of opinion. There was one course in the academy which prepared for college, and one course in the college; and there was no university at all, with all its botherations. Nobody ever dreamed that things could be different or better. To be educated was to know Latin, Greek, and mathematics, and perhaps guess at some metaphysics. There were no problems of educational organization; there was little money spent for education; there were only a few in the civilized world to whom education appealed as a great vital interest. The only place in which any educational speculation was rife

a hundred years ago was in the midst of the turmoil of the French Revolution. The eighteenth century closed in what might be called an educational era of good feeling, a reign of peace. But as we stand in the closing years of the nineteenth century, what subject gives rise to more discussion, shows more difference of opinion, and greater variety of professional judgment, even, than the subject of education? Its scope has been vastly widened with the century. It reaches farther back and farther forward, and comprises an infinitely larger area of the present than it did a century ago. It has become the interest upon which the civilized world lavishes more money than upon any other; so that it has assumed great economic importance. It has come to be believed in as the one potent means of national regeneration and of national salvation. If it be so potent as men somewhat thoughtlessly say, if it be one half so vital to the present and the future, then surely no amount of thought, no amount of discussion, no amount of investigation is too great to lavish upon it. Nor can anyone doubt for a moment that the present condition of unrest, of agitation, of uncertainty, but of inquiry, of faith, of endeavor, of enthusiastic hope and great determination to know the best and to do it is far more promising than the peaceful stagnation of a century ago.

THE PROPER LIMITATION OF ELECTIVE WORK IN SCHOOL AND COLLEGE

C. D. SCHMITT

To one brought up under the influence of the old college with its fixed curriculum and indoctrinated with the idea that excellency in Latin, Greek, and mathematics constituted the highest ideal in scholarship, it may be difficult to eliminate the personal equation and to bring himself to a proper consideration of the question involved. The writer realizes the tremendous change that has taken place within the last twenty years in the abolishment of the prescribed courses in many schools and colleges and the offering in their stead a variety of courses from which the candidate may select either the one most pleasing to his fancy or the one best adapted to his actual needs and mental equipment. The pertinent question is whether in escaping the Scylla of no electives we have not been wrecked upon the Charybdis of all electives. We have no desire to restrict the freedom of the individual who is capable of knowing what freedom is and how to use it, nor

to issue a Sinaitic proclamation of "thou shalt and thou shalt not," but it seems necessary to consider with care the steps already taken and to be sure that the opening of the gates of election has not been too wide.

The professional and purely technical schools and colleges are to be differentiated from what is known as the schools and colleges of the liberal arts. In the former the courses appear to be definitely fixed — cast iron, we might say. In law, medicine, dentistry, theology, pharmacy, engineering, and other schools there are practically no electives, except occasionally a choice of a modern language in the engineering course. Certain studies are regarded, and rightly too, as absolutely essential to the successful pursuit of those different professions. There are so many things that the student *must* know that there is little or no time left for the other things that he *might* know and which doubtless it would be very pleasant to know. If the work in these professions is required to be based upon a bachelor's degree (and may the time soon come when this will universally be the case), then the student will have had the choice of electives in the attainment of his previous college or university degree. Once the student has entered upon the definite study of his profession, his entire efforts are to be concentrated along that line. The candidate for the medical degree cannot substitute Greek for anatomy nor algebra for obstetrics. The law student cannot offer geology for Hale on Torts nor physics for equity and jurisprudence. There seems to be a legitimate propriety in this, and the wisdom of such a fixed course is seldom questioned.

Having eliminated the institutions devoted to professional and technical work, we come to the main topic: "The Proper Limitation of Electives in the School and College." That all of our better colleges and universities offer various electives is certainly true, but the scheme of election in academies, high schools, and preparatory schools is not so universal, and in many of them does not exist at all. It may be difficult to draw the dividing line between school and college, for the last year in the best academies is better than the freshman year in some colleges. It is not the province of this paper to discuss what studies properly belong to each. We will, however, understand that the school extends through four years and the college four from freshman to senior.

Let us keep clearly in mind the function of the school and college, which is to educate human beings, to fit them for solving the problem

of life in a way best for themselves and others. Education is "power-getting," the furnishing of energy for the successful carrying out of the plans formed by the machinery of the mind. The young mind is to be trained to think, to perceive and to judge, to discriminate and to reason with as much logical exactness as possible. Education must furnish him with material to develop the mind and at the same time with useful knowledge. He must be taught both what to do and how to do it, and to do it in the best way. One object, and frequently under the old dispensation, the only object, is culture, but culture is not all. The individual must be trained to think and investigate for himself. He must be fitted for the active pursuits of life, and to this end the culture side must not be developed entirely at the expense of the practical or technical side. The technical education of no one should be barren of literary culture, and the literary training of no one should be devoid of all practical instruction. This ideal is, however, seldom attained. The old strict classical training was too much along one line, though for the most part it produced men of high culture and polished scholars, and it remains true today that these graduates are seldom overshadowed by the more generally educated man of the present. Still, that training left part of the individual undeveloped, and it has been the aim of the newer education, by a freer introduction of the sciences and scientific thought and training, to obviate this one-sidedness and to give to the individual a more perfect and harmonious development. We do not wish even to appear to underrate the value of a classical training, but to express the opinion that there are some sides of human nature which such training does not and cannot reach. But, on the other hand, in trying to supplement the classical training with a scientific or technical one, there has been in recent years on the part of some a tendency to go to the extreme in the other direction. Instead of supplementing it has been rather a supplanting, and it seems that a word of caution may be of worth.

No one means to say that all individuals are alike, and that the training that is best for one mind is best for all. We do not consider a collection of men in a school or college as so many blocks of wood, out of which are to be made so many vessels, all modeled after the same pattern. It would not be reasonable to say that the mental development of every one shall be brought about in the same way and to the same degree. No two are constituted, either physically or mentally, alike. This dissimilarity in mental nature and inclination seems, then, to necessitate a certain amount of freedom, but the

question arises as to whether there are not certain lines of mental activity along which training can be pursued whatever may be the peculiarities and inclinations of the individuals. Are there not certain branches of instruction which can be regarded as fundamental and which ought not to be omitted from any curriculum? Considered psychologically, and from a true educational standpoint, it seems that there are four such lines of activity — namely, language, history, mathematics, and the sciences.

Language is placed first as being preëminently essential to the correct and successful training of the individual. Everyone ought to have a certain mastery of his own tongue, whatever his calling is to be. An acquaintance with its origin, history, development, and changes will confer a power of recognized value and will give to the possessor a masterful influence over those not so equipped. No one knows when he may be called upon to express himself in public and he cannot do this with clearness and force if he has had no training. Whether this study of the mother tongue can be well done without a knowledge of other languages, especially the Latin, is to be doubted, and this must be considered later.

In the second place, the educated man must know the history of his own country, the origin and growth of its institutions and their development in politics, religion, and society. The value of true citizenship cannot be appreciated by one who is ignorant along these lines. As no nation is isolated from all others, so this study of one's own land naturally demands a certain amount of investigation concerning other nations — at least concerning those which are contemporary.

Next as a necessary factor we would place mathematics, notwithstanding the fact that some institutions and some teachers are more and more inclined to make all mathematical work beyond arithmetic elective, mainly on the ground that so many do not like or care for mathematics. The disciplinary value of mathematical training is well recognized, and the part that it plays in bringing the powers of the individual into logical order and causing them to work along systematic lines is beyond question. Besides this, the facts of science and the various relations therein existing must be measured and systematized, as it were, and for this work mathematics are absolutely essential.

Finally we place the sciences in the list as an undisputed factor in the curriculum of our schools. Not to take into consideration the truths of nature as exhibited in the different sciences would be to omit

from our education one of its most practical features. "Science," says Huxley, "is nothing but trained and organized common sense."

If it be granted that instruction along these four lines should be embodied in every system of education, the question arises as to which of these lines can be successfully pursued in the secondary and preparatory schools and how much. Also, which of them shall be prescribed and which made elective.

Personally I am nearly ready to agree with Commissioner Harris that there be no electives in the preparatory schools. The plea that these young students should be allowed full liberty in selecting just the studies they like is not sound pedagogy, and must eventually result in more harm than good to the majority so electing. To what extent is the young boy or man who is in these schools competent to select for himself the studies which he ought to have? Certainly he can select what he likes, but common experience or common sense ought to teach us that what a boy likes is not always the best for him. If a boy is backward in a certain study or does not get along well in another, or despises a third, then, I suppose, he ought at once be allowed to get rid of such dislike. Rather does not his backwardness show that he needs just the more training in that direction? Often the student who asks what is the good of linguistic training is the one most in need of it, and the one who says he can do nothing with mathematics is the one who most needs the training which arises therefrom. "A proper education will develop that which is deficient and stimulate that which is dormant, guide that which is vigorous, and restrain that which is abnormal in tendency." The attendant upon the schools is for the most part not prepared to say what he is best fit for. He is not ready to choose his future occupation, and even if he is, who will be so bold as to say that the general education proposed will not the better fit him for this occupation. Shall the wisdom and experience of men who have made a life study of the details of education be exchanged "to suit the inconsiderate vagaries of inexperienced schoolboys?" If the school is to be the end of his education, as is the case with so many, should we not for that very reason insist that he be given this prescribed course which the experience of past generations has shown to be wise, wholesome, and good?

But to return to the original question: Shall each of these four main lines of mental activity be taught in the schools, or shall there be a division and some be left until the college course? We answer that all ought to have a place in the schools, and that if there must be

electives, let them be from among the different subjects comprised in the four divisions and not from among the divisions themselves.

The English language and its literature should be compulsory. It is doubtful if the present age will consent to the inserting of Latin as a compulsory study in the course, so we propose that in addition to English there be an elective from Latin, Greek, French, and German. This will not be in opposition to the scheme proposed but in direct harmony with it. Compulsion in the sense that an additional language will be required, but elective in the fact that one of four languages may be chosen.

In history, that of the United States should be compulsory. Here again if electives are asked for, the same plan as in the preceding paragraph is to be followed. If United States history be studied for one year, three years will be left and the electives in those years are to be limited to kindred subjects. Compel the pupil to study history, but let him elect from English, Grecian, Roman, French, and German, and if any special preference be shown for one above another, let him pursue the one of his choice. But to offer an election between history and drawing, for instance, would destroy the plan, and, moreover, would seem to be at variance with correct pedagogical thought.

In the third division, that of mathematics, there seems to be no place for an election, and the scheme proposed would require algebra and geometry to be studied by all pupils. In the high school at Newton, Mass., where mathematics was made elective, only 30 per cent. elected algebra and 23 per cent. geometry. May the hope be expressed that our association is not ready to approve of such a course.

In the sciences the need for making some one compulsory does not seem to be as pressing as in the other divisions. Here the limitation as to the choice might be removed, and the pupil might elect from physiology, botany, physics, chemistry, physiography, anatomy, meteorology, and probably some others. But the election must be a science. Of course all these different sciences could not be taught in the four years, but elementary courses could be given in any four, that is one each year.

The above scheme calls for recitations in five subjects, two in languages and one each in history, mathematics, and the sciences. It is not necessary that each of these classes recite daily, and in this case there might, in the judgment of some, be room for an additional study to be elected from any of the courses. This election, if offered, ought not to be required but should be at the option of the brighter pupils

who feel able to carry an additional subject. This would give the opportunity for French or German in addition to the Latin, or both French and German instead of the Latin or other combinations.

To sum up, all pupils are to be required to study language, history, mathematics, and the sciences, and the election, if any, is to be limited to the various studies in the different groups. That is, no one is to be allowed to omit entirely any one of the four groups. A pupil might prefer to take three classes in language and two in science, and thus omit all history and mathematics, or he might take the five from history, mathematics, and science, and omit all language and so for other combinations. Such selections will be positively forbidden by the proposed limitation.

Having completed the course thus outlined, the young man will be ready to enter upon his college work with a trained and disciplined mind, or if he does not enter upon a higher course, he is certainly equipped beyond the ordinary to enter upon the practical pursuits of business life.

Coming to the second part of the question as to the limitation of electives in the college, while there may be a somewhat broader application of the principle enunciated, yet the principle of the whole ought to be the same. An examination of a large number of catalogues of our southern colleges and universities shows in all instances a much wider field of election now than in the past. We find almost universally the two degrees of bachelor of arts and bachelor of science and in many institutions the additional degrees of bachelor of letters and bachelor of philosophy. Here is an election at the very start, and after the course for the special degree has been decided upon, we find further electives within the courses themselves, an election within an election. In most cases this begins with the freshman year and becomes farther reaching in each succeeding year. One college requires only two studies each in freshman and sophomore years, the rest being elective. Another has four groups leading to bachelor of arts and three leading to bachelor of science, and in each one of these groups from one fourth to one half is elective. This may be an extreme case, but it shows the tendency. Evidently some limitation is necessary unless we are going to adopt the plan of prescribing nothing except a certain number of hours.

If it be granted that we must have both bachelor of arts and bachelor of science, the choice between these two ought to be sufficient election for the freshman and sophomore years. In each one of the

two courses the limitations proposed for the schools ought to be effective for the first two years, with the legitimate difference that in the work for the bachelor of arts degree language and history may be made the predominating two of the four divisions; and in the bachelor of science degree, mathematics and science, but allowing none of the groups to be selected to the total exclusion of any other.

The advisability of granting much election to freshmen and sophomores is questionable. There being two distinct courses, literary and scientific, it might be possible to prescribe studies without any election. If this be deemed advisable, proposed courses might be as follows: In freshman literary, English, Latin, mathematics, history, and physics; in freshman scientific, English, French or German, mathematics, biology, and physics. In the sophomore years these studies would be continued except that physics would be replaced by chemistry. The history of the literary course might be substituted by Greek. Such an arrangement, if not too conservative, would be in close harmony with the plan outlined for the schools and would be a continuation of the work begun therein. If this is too narrow, and the difficulty of meeting the wishes of all is realized, modifications would be necessary, but we would still insist on each one of the four groups, language, history, mathematics and science, being represented. If this plan has been operative through the four years of school and the first two years of college, then the last two years may, with greater propriety, be made freer, and the student may begin to specialize. By this time he has reached a maturer age and besides the greater mental development, he has had the opportunity of testing what in the beginning appeared to him as strong likes or dislikes. Yet even here the door ought not to be made wide open. Some limitation is still desirable. There is still some danger, though not so great, of the student becoming too narrow. The subjects now to be studied might be grouped under the two broad heads of literature and science, and neither ought to be studied to the complete exclusion of the other. One institution in both junior and senior years grants an election of five studies out of twelve. Now five things can be selected from twelve in 792 different ways. It would, then, be possible to have 792 students and no two doing just the same work. This is probably in harmony with the view of those who maintain that as each mind is different so the training of each should be different. If the student has elected to be a chemist, for example, shall he in these last two years study nothing but chemistry? Ought he not to have modern

languages or other sciences? Shall the future political economist now study nothing but economics? Some of the latest books on this subject draw freely from mathematics for illustration. And so on for others. No one ought to shut himself up with his favorite pursuit and close the doors to outside knowledge. The true conception of the worth of these last two years will still demand of the student, though in less degree, some of both literature and science. The literary man must not be unscientific in his thought, nor the scientific man unpolished and uncultured in his work.

The determination of how much literature and how much science is the proper distribution for these two years in both courses is difficult and must be left to the different faculties.

THE PROPER LIMITATIONS OF THE ELECTIVE SYSTEM OF COLLEGE STUDIES

By G. W. Miles

America has been called a wasteful nation, but of all our wastefulness, we waste more boys than any other product. There is an utter lack of intelligent system in the minds of the American people regarding the proper way in which to educate a boy, and the courses of study that should be prescribed for him. We find men in this country sitting in their back offices, in a purely commercial atmosphere, upon whom rest the sacred obligation of parentage, and flippantly, ill-advisedly, and dogmatically blocking out a plan of education, or course of study, for their sons, and usually capping it with the remark "that if he don't like that I will put him to work," and the result is that a young life is forced to grind up its seedcorn in routine business that should have been planted to bring forth an hundred-fold fruitage in his subsequent life.

Now a company of teachers, such as this assemblage here, may arrange its courses of academic studies, but the attractiveness of those courses and the steady compliance with them depends upon the American parent and the American home. This is the starting point, and without coöperation there and a fully cultivated mind our system and our theories must fall to the ground. It is easy enough to reconcile the difference between the curriculum courses and the elective courses, provided the education of a child is made a living issue and holy passion in the home from the very day of his birth.

But if he is allowed to grow up in wasteful idleness, or if the precious years of his youth are allowed to pass without doing the scholastic work best suited to them, then his whole education gets into bad adjustment and there is no time for this study or for that study, and he finally winds up another victim to our lack of educational foresight.

I made these remarks here in this place as a kind of preface to what I am going to say, and to fortify the only weak point in the suggestions to be offered concerning this whole curriculum and elective discussion.

There are some things which every mind should be trained upon, and to compass these things and conform to the best curriculum it is essential that no years in a young life should be lost, and that his course of academic training should be held steadily in view from the beginning. Otherwise, the best theories of the best teachers must come to the ground, through parental indifference or ignorant commercialism.

I should say, then, that the curriculum plan of collegiate education, and the elective plan, each have elements of strength, and at certain stages of the educational life each fills an essential place in the best development. The natural and logical way is to train a mind first in the curriculum and then allow a certain freedom of mental likes and dislikes of the special objects in life, of scholastic specialties, to be cultivated through the wider liberty of the elective system.

There are some things that every educated man should be forced to study before there is attached to his name the magic letters of an academic degree. First and foremost I should place a thorough, full, complete course in the English language and literature. Next I should place the mathematics, then should come the Latin, and side by side with it the higher glory of the Greek. I need not pause here to enter into a controversy as to the study of Greek. A language and a literature that has enriched the world's thought as the Greek has, that has been the favored vehicle of divine inspiration, through which the word of God was given to men, and which in itself is the most refined and delicately shaded of all human idioms, should never be dropped from the courses in the schools, and my solution for reconciling the conflicting interests of Greek and the modern languages is a simple one. I should require both Greek and French and German in every curriculum, and for every bachelor's degree.

This is the proper solution of the difficulty, not the rejection of the one or the other. There is ample time to learn these languages if the child's education is taken in hand at the proper age. At eleven years

of age let him begin his Latin, at twelve his Greek, and by the time he is seventeen or eighteen he will be ready for your university courses, thoroughly drilled in English, mathematics, Latin, Greek, French, and German, together with the usual preliminaries in the sciences.

The struggle between curriculum courses and elective courses arises, as it were, in an effort to portion out in scraps the hours of an ill-prepared stay at the boy's university. The years that are freighted with the most golden promises and opportunities are those years between eleven and seventeen and eighteen. If these years are properly cared for and utilized, then, as the great province of learning spreads out before him, there is both ability and time to cover a proper curriculum and avail onesself of the electives. The trouble is that there is a greediness like a fever in the blood among our American youth to be done with his education and to be off into the money-making marts of the world.

What would be thought these days of a John Milton, who spent seven years at the university, studying the classics, mathematics, and the modern languages, and then, after getting his degree, retired to his father's country seat, where he further "dedicated himself to closeness and the betterment of his mind?" But let us remember, in our crude haste, that in all those years he was, like his own eagle, purging and unscaling his sight at the fountain itself of heavenly radiance.

But we must take the American boy as we find him and while the seriously perverted condition in his preparation may interfere with our proper theories, still we must be true to those theories to bring our American educational life at last to its highest development. Then let the colleges insist on a certain curriculum, to be exacted alike from all men wearing the academic degree and, as I said in the beginning, as the first essential part of this curriculum, I should suggest the two great classical languages of the ancient world, together with the three dominating tongues of the modern Christian nations. Of course, a full, complete knowledge of that great parent of all the sciences, mathematics, should accompany this gift of tongues, together with rudimentary instruction in natural science. When this is done what a field of knowledge spreads out before us! When young Bacon, conscious of the insatiable thirst of his intellect, wrote to his matter-of-fact old uncle that he had determined to take all knowledge for his province, even his prophetic vision little dreamed of the manifold forms of knowledge that our modern civilization presents, and which it is necessary for the real university of the present to include in its courses of study. We must settle certain scholarly essentials, and we must also lay the basis

in our schools for a special education according to the purposes and professions in life to be subsequently determined upon. Let the business-man, the lawyer, the doctor, the scientist, the army or navy man, the minister, the journalist, let them all meet on the common ground of a common culture, mastering these five languages, unlocking the bars to these five literatures, and along with it let them all be thoroughly trained in the science of mathematics, together with the usual rudimentary accompaniments in natural science and history, and then he may at will go forth into the fields of his special equipment, of his special tastes, of his particular profession. One of the most stirring facts of our intellectual life in this century has been the breaking away from all mediæval scholasticism, from all dogmatical, religious disputations, and the entering upon the freedom of scientific research and an undreamed of mastery in the details of the learned professions. In order to realize the old Greek motto, "Of doing nothing too much," "Of sowing with the hand, instead of the full sack," we are compelled to establish clearly and simply certain educational essentials, or bases of future development, and holding rigidly to these, then provide, in freedom and amplitude, instruction in all of the noble sciences and subjects, that modern civilization has brought to us. In 1779 Thomas Jefferson was a member of a committee to revise the curriculum of William and Mary College, at that time the wealthiest and most progressive institution of learning in America. The report bore the impress of Jefferson's own mind and was submitted by him. There had been up to this time six professors, one of Hebrew, one for explaining the controversies with heretics, one of rhetoric and logic, one of physics and mathematics, one of Latin and Greek, and one for teaching Indian boys reading, writing, and arithmetic and the principles of the Christian religion. Jefferson's proposal was to make eight professors, one of moral philosophy, one of law and police, one of history, one of mathematics, one of anatomy and medicine, one of natural philosophy and natural history, one of ancient languages, including Hebrew, Chaldee, Mœso-Gothic, Anglo-Saxon, and Old Icelandic; and one of modern languages. There you have the best conception of what a master mind in that day could contribute to what should constitute the college course of study. It was the embryonic American university. Compare, if you please, those eight professorships with what they have grown into in our modern universities, with their great schools of departments of law, medicine, engineering, sciences, and languages. Here is Columbia College, with five teachers in the department of the English

language and literature, all presided over by a dean of the English school. Then we have the romance languages with four or five professors, the Teutonic languages with a like number, making say fifteen professors to teach the so-called modern languages in the old school, one department in old William and Mary College. The multiplication, the specialization in the great general subjects of law and medicine, has been greater still, while the old chair of natural philosophy and natural history has been split into a score of noble subjects and noble professorships, more or less independent of each other. In such a wealth of choice, in such a labyrinth of specialties, should there not be some wise, some firm, some directing hand laid upon the young minds of this generation, some thread of Ariadne to bring them safely into the light out of his labyrinthean ignorance. I believe that the most that we can prescribe are the subjects to which I have referred. These subjects are the keys that will unlock all knowledge, wherever it is found, in any quarter of the world or in any department of thought. After these subjects are learned, then let the student, and those who are interested in his welfare, select subjects to which he will devote his time, tastes, and talents. This leads me to say that I believe the time has come in the life of our American universities to drop the old mediæval or cant terms that have been used to divide the years of the American student's stay at college into periods of freshman, sophomore, junior sophisters, and senior sophisters, so-called. These terms were brought to this country from Cambridge in England, and grafted upon our student life at Harvard College. There was very little occasion for them then and much less now. They are not in keeping with that broad freedom of intellectual life which the closing century has brought to us. Such new wine of knowledge as the new century has in store for us should not be put into such old and shriveled wineskins. There is no reason for saying that four years should arbitrarily determine or terminate the stay of a student at the university. There is no good reason for saying that an academic degree should be measured by four years residence at a seat of learning. In fact, the academic degree is the most deceptive thing in connection with our whole educational system, and therein, above all things else, come the chief perversions of the purposes of educational development. This iron-jacketed tunneling for a degree destroys a great deal of intellectual life. A student was sitting in a learned professor's library, discussing with him his course of study, he was eager to go and pursue to the very limits of knowledge certain favorite subjects that had caught his tastes and

talents, but the professor objected that it was necessary for him to study certain other subjects in order for him to get his degree. The student replied: "What a pity I must give up my education in order to get my degree!"

What is wanted in America is a broad, catholic common sense applied to educational questions, and above all things, a utilization of those golden, youthful years, which, when used aright, will bring boys to our colleges prepared to enter with upright carriage and with a spirit of intelligent devotion upon the service at these temples of learning, then their education will be like the river described in the verses of our American poet and sculptor:

> "Fitted for every use like a broad, majestical river,
> Blending its various streams, steadily it flows along,
> Bearing the white-winged ship of poesy over its bosom,
> Laden with spices that come out of the tropical isles;
> Fancy's pleasuring yacht, with its gay and fluttering pennons,
> Logic's frigates of war and the toil-worn barges of trade."

OUR PROPOSED NEW REQUIREMENTS FOR ADMISSION TO COLLEGE

R. W. JONES

THE subject of entrance requirements made by the colleges, and the correlated subject of programs, setting forth the work of the secondary schools, are regarded throughout the country as supremely important. Entrance requirements, and especially the effecting of uniformity in them on the part of the colleges of the southern states, was one of the chief items in the call issued by the faculty of Vanderbilt University, which led to the formation of this association in Atlanta, and this subject, more than any other, engaged the thought of the first meeting; and some phase or other of this same subject has been earnestly considered by each subsequent meeting. Other similar associations have also been wrestling with it. In some other parts of our country there has been felt and expressed a broader, more general interest, if not a more intense interest, than has been shown by our southern colleges and secondary schools. The breadth of the subject, the complexity of it, the varied local conditions to which more or less consideration must be given, conspire to make it a very difficult one; and yet its recognized importance in the estimation of school men justifies and requires the most serious and persistent efforts and study for its wise adjustment; not that it is hoped to state in fixed terms and

exact units a scale of requirements which apply everywhere and for all time, but to set forth some principles of sound educational philosophy and practice, and upon these by a consistent movement upward from time to time to approximate the perfect solution. To this end, most painstaking effort has been made by the most influential organizations in this country, whose purpose is to promote sound knowledge and genuine education. I may mention the American Philological Association, the Modern Language Association, the American Mathematical Association, the American Historical Association, the National Educational Association. The last named organization appointed in 1892 a Committee of Ten, whose report in 1893 on secondary education, together with the recommendations of nine conferences on as many different lines of study, commanded the highest consideration of teachers and school authorities not only throughout the United States, but also in all civilized countries; and it is now everywhere recognized as an educational classic. This publication so stirred teachers and school authorities, and created such general impulses in the line of improvement that in the states generally efforts were made to establish more definite programs for secondary schools, and to define more clearly their relation to college work. In my state, Mississippi, the State Teachers' Association raised a Committee of Ten, eight of whom were from the public schools, one from a college, and one a member of the university faculty. This committee recommended a program of three years' studies for public high schools, which was adopted by the association and approved by the university, and became the basis on which schools were affiliated with the university; so that certificates were received in lieu of entrance examinations. This was the first organized effort in this state at uniformity in programs for secondary instruction. It has exercised a wide and very beneficial influence, increasing the definiteness of the work and the confidence of honest teachers, informing intelligent citizens who are not in the school work as to the province of the high school, thereby protecting communities from frauds and shams, increasing confidence in the value of the school system, tending slowly to raise the standard of scholarship in the high schools and enabling the university to increase its entrance requirements in some things.

In 1895 the question was raised in the National Educational Association: "What action ought to be taken by universities and secondary schools to promote the introduction of the programs recommended by the Committee of Ten?" The result was the appointment

of the committee now known as the Committee of Twelve on "College Entrance Requirements." The report of this committee, together with those from coöperating associations (see proceedings of National Educational Association for 1899), in point of ability and extent of inquiry forms a fit companion to that of the Committee of Ten. The closeness of the relation between the college and the high school is emphasized in them, also the benefits they can confer on each other; much confusion is removed; the distinction between these two grades of instruction is drawn with some clearness and sharpness. Toward the close of their report the Committee of Ten use the following language: "They believe that this close articulation between the secondary schools and the higher institutions of learning would be advantageous alike for the schools, the colleges, and the country." This has been quoted with approval in the report of the United States Commissioner of Education and by other high authorities; it is approved by the teaching of experience which the country has had since that time. It is a great gain to the cause of education when the worker in the school and the worker in the college can each say with Paul: "This one thing I do."

To get the best results it is evident that there must be agreement and concert of action between the colleges and the preparatory schools. This involves conference, and that is what this association desires to encourage. Each should be considerate of the circumstances and welfare of the other. In making entrance requirements the colleges must consider what the schools are doing and can do under their surroundings, and let their claims be reasonable. Then the schools should do their utmost to give the colleges pupils in the best condition of preparation for the college courses. This association must give large weight to the fact that in most portions of the South the school year is short because of limited funds. Therefore the grammar school cannot do as much work as is done where the year is of full length. Hence the high school begins its work at a point lower down. This necessarily affects the condition of the student at the close of the high school years. Notwithstanding these disadvantages under which our schools labor, the colleges and schools by continually working together for the greatest good of education can improve both the quantity and quality of their work. In order to do this the teachers of the secondary schools must appreciate the work of the colleges; this they can do far better if they have been educated at college and have the spirit of the higher education. The public mind

must be impressed in regard to the great importance of the higher education, and must be informed of the improvements that may be secured when ampler provision is made. In an ideal system, under perfect conditions, the program of the preparatory school and the requirements for entrance to college would be identical; as these approximate identity the excellence of the system is indicated, and the favorable condition of the people for education. Then the aspiring and gifted youth beginning at the lowest grade in the primary school may pass up through all the grades without check or hindrance until the work is crowned in the university. This is the view that so charms the enthusiastic teacher and admirer of the public school system.

With this brief review of some points in the recent progress in educational thought, of the present condition of schools among us, of the desirability of distinctly separating the work of the school from that of the college, of the incalculable importance of clearly defined entrance requirements and of programs for secondary schools, I come to apply these to the consideration of the amendments proposed by the executive committee to by-law No. 3 of this association.[1] Taking the proposed amendments to the third by-law together, I think they make distinct improvement. In English, Latin, Greek, mathematics, the requirements are the same in the two statements.

By reference to the excellent paper presented by Dr. Dabney to this association on "Requirements for the Bachelor's Degree," the thoughtful report of Doctors Dabney and Fulton, and the very suggestive one of Chancellor Kirkland on "Program of Study for Preparatory Schools," and also to the reports to the National Educational Association, previously mentioned, it will be seen that a proper classification of subjects will include at least the following groups: (1) English; (2) foreign languages; (3) mathematics; (4) natural science; (5) history, philosophy, etc., and a little thought will impress us that these groups should be represented in the work of the preparatory school. In our present by-law German and French are not mentioned as requirements, at present or in prospect; history and general geography are grouped together, and there is no requirement for science other than general geography. These appear to me as defects in the statement of requirements, and for this a remedy is proposed in the amendments. The attaching of numerical values to the several subjects furnishes a gain in clearness, in making an aggregate statement, or summing up of the requirements. Whilst I approve

[1] For statement of these amendments see the close of this paper, p. 13.

this plan, I would like to call attention to an inequality of requirement in Greek as compared with German and French in order to count two points. About two year's work is required in Greek to count two, while a light year's work in each of the other languages counts the same. In order to equalize the requirement, either the quantity of Greek should be lessened so as to come within the performance of one year, or that of German and French should each be made a two years' requirement. I suggest that a definition of one year's work be as follows: One year's work shall consist of not less than four periods per week throughout the year, each period being at least forty-five minutes.

In regard to the study of history, I think that some history should be included in the requirements for admission by any college which specifies any requirements at all for entrance. I quote to approve the recommendation made by the Committee of Seven of the American Historical Association, as follows:

> 2. If a college or scientific school requires a list of certain prescribed studies and also demands additional subjects, chosen out of an optional list (as for example at Harvard University), we recommend that one unit of history be placed on the list of definitely prescribed studies, and that one, two, or three other units of history be placed among the optional studies.[1]

If only one year's work is required, it should be in the history of the United States.

On the subject of science I would beg leave to suggest the following in lieu of that which is printed in the amendments: Science — physical geography, botany, zoölogy, or botany and zoölogy, physics, chemistry. It is highly beneficial to the pupil of the secondary school that some science study should accompany his other work. The training given to the mind by the observation method and the laboratory method of pursuing science is of a different kind from that furnished by the other studies and forms a most valuable complement to them in their effects on mental development; the child is endowed by nature with the faculty of observation, but if it is not used it becomes atrophied. I have seen some melancholy cases of this; a young man took a high stand in mathematics and languages and indeed in all those subjects which could be pursued through a text-book by learning rules, definitions, laws, and applying these to the cases at hand, or by following the course of reasoning employed by an author and understanding his conclusion; but when he had an exercise in the chemical

[1] Proceedings of National Educational Association, 1898, p. 758.

laboratory which required the performance of certain operations with the demand that he note the phenomena and record his observations, he was as helpless as a child in deciding what was important to be observed and how to interpret it. The field of science is so broad and comprehensive that for the pupil to get a reasonable amount in a scientific course, he should begin and become acquainted with some of its methods in his preparation for college. From this point of view on the part of the college, the requirement of elementary instruction in science for admission is almost as important as that in mathematics. The introduction of the proper study of science in the high school varies and enlivens the course. The Committee of Ten of the National Educational Association makes the following strong statement:

> Every member evidently felt strongly that the ordinary method of secondary education which ignores the study of nature is highly objectionable. The study of books is well enough and undoubtedly important, but the study of things and of phenomena by direct contact must not be neglected. If it is conceded that the study of scientific method is important, then it appears evident that in the early stages of education the mind should be prepared for this kind of study and not rendered unfit for it?

It is true that science teaching, when properly done, is costly: physics and chemistry require laboratories, furniture, apparatus, and material: teachers of science must have vacant periods to arrange for experiments and demonstrations; students need double periods for laboratory and field work; teachers of science can carry only about half the number of hours required of other teachers: these things call for special adjustment and considerable outlay: in most cases these can be made: when they cannot, physics and chemistry should not be attempted in the secondary school. But the subjects of physical geography, botany, zoölogy can be pursued profitably in the high school without great expense, and in the hands of capable teachers are admirably adapted to the training of the faculties of observation and comparison. In my state it is easier to provide for these than for instruction in German and French in the secondary school. I would not prescribe any one of these branches of science as *the subject* for entrance requirement; but would name one year's work in natural science, leaving the particular subject to be chosen by the school according to its surroundings and the qualifications of its teachers; my own general preference would be for physical geography, if only one year's work is required.

To sum up the requirements in tabular form, I would put them thus:

1. For A.B.

Required—12 points	Elective—6 points from
Mathematics 4	Latin 4
English 4	Greek 2
History 2	German 2
Science 2	French 2

2. For B.S.

Required—12 points	Elective—4 points from
Mathematics 4	Latin 4
English 4	Greek 2
History 2	German 2
Science 2	French 2

This table requires 18 points for A.B. and 16 points for B.S. Some would object to this inequality; I admit it is best to have the requirements equal, or as nearly so as feasible; we must, however, take into consideration that up to this time we have had no requirement in science, and at this time the colleges which are members of this association make appreciably larger requirements for the A.B. than for the B.S. This should be changed; I would require one year's work in science in 1902 and two year's work in 1903 for admission to the B.S. course; this would fix 18 as the number of points required for either course.

It is much to be regretted that there is, in the opinion of many, a condition confronting us in the South which makes it impracticable to enforce any entrance requirement at all in Greek. I wish I could speak an encouraging word in behalf of the study of this language in our preparatory schools and colleges. A year ago my colleague, Dr. Saunders, gave to this association a history of the recent efforts made by him to introduce the study of Greek into the public high schools of Mississippi. When this association was formed the University of Mississippi was giving instruction to beginners in Greek; when the entrance requirements were published, he set to work energetically and discreetly to meet them, and, happily, succeeded; he had the hearty coöperation of the chancellor and faculty of the University, and was cordially supported by many of the most progressive teachers in the high schools. At the time first named for these requirements to go into effect, he was ready, and now each year he is receiving a fair number of students who have had two years of instruction in Greek; cannot this same thing, or something equivalent, be done in other states?

Assuredly this association, representing in some degree the best expression of preparatory and college education in our southland, will not be content that its stated requirements shall be permanently lower than those of other similar institutions! The South, and the teachers

of the South, will not admit that our education should propose less and do less for our people than is done in other portions of the country. We may offer many excuses; but to excuse ourselves for not doing the work, is not equivalent to its performance; it is true that we labor under many disadvantages; we have to educate two races side by side in separate schools; the white race of the South has to carry well nigh the whole of this double "burden." Our losses by war and that misnamed reconstruction, that was designed to destroy us, have made it extremely difficult for us to accumulate that degree of wealth which is needful for the ample endowment of universities and schools of technology and for the large demands of material progress; the brave men who fell in the carnage of war are sadly missed in the thinned ranks of the truest and best whose shoulders are under this load. I mention these things, not to engender feelings of resentment, surely not to encourage lamenting and repining, but the opposite: to stimulate our pride that we may rise to the "height of the great argument" of our possibilities. My pride in the old confederate and the young southerner, as well, is to see no pensioner, no acknowledged inferior, but an erect, self-respecting man striving for excellence and honor and independence.

. . . . "Men may rise on stepping stones of their dead selves to nobler things."

. . . . "Shall we not forecast the years,
And find in loss a gain to match?
Or reach a hand through time to catch,
The far off interest of tears?"

It may seem to some a comparatively small thing for us to be so carefully laying the conditions of entrance into college; it is not a small or narrow thing; it is a great work. Who knows how far it may run through the whole future of the noble people it is our privilege to serve. There is no nobler race than the real Anglo-Saxon of the South, no race capable of higher cultivation and greater achievements. Our plans should look to their continued elevation, to the preservation of their gracious traditions, of all that made their life beautiful and glorious in the past, to the copious infusion into them of confidence in their ability to stand on the highest plane of intelligence, expecting a future resplendent with prosperity and the worthiest achievements of mind.

The struggle which they have carried for more than a third of a century has often reminded them of those saddest of sad words "It might have been," but it is to see finally a glorious triumph in the

march of truth. Have not our men and women already given the world new departments of literature? Have not their writings found a place among the productions of genius? Is it not true that "literature loves a lost cause, provided honor be not lost?"

For the sake of clearness we print here the by-law No. 3 and the amendments proposed, which are discussed in the paper of Professor Jones:

By-Law No. 3. The association prescribes the following as minimum requirements for admission to college, the same to be binding on each institution belonging to this association:

In English.—Requirements of the Association of Schools and Colleges in the Middle States and Maryland.

In History and Geography.—United States history and general geography.

In Mathematics.—Arithmetic and algebra through quadratics, or algebra to quadratics, and three books of plane geometry.

In Latin.—Four books of Caesar and four orations of Cicero (or their equivalent) with accompanying work in grammar and prose composition.

In Greek.—Three books of Xenophon's *Anabasis* (or equivalent) with accompanying work in grammar and simple prose composition (operative in 1900).

Of the above subjects, examinations in history, geography, and English shall be required of all students admitted to college, provided that students pursuing technical studies in not more than two subjects may be excused from these examinations. Examinations in Latin, Greek, and mathematics respectively shall be required of all students expecting to continue these subjects. Certificates covering the above requirements may be accepted from duly accredited preparatory schools in lieu of entrance examinations at the colleges.

Amendments to the foregoing by-law:

The subjects in which entrance examinations shall be held shall include the following:

English.—Requirements of the Association of Schools and Colleges in the Middle States and Maryland.

Latin.—Four books of Caesar and four orations of Cicero (or their equivalent) with accompanying work in grammar and prose composition.

Greek.—Three books of Xenophon's *Anabasis* (or equivalent) with accompanying work in grammar and prose composition.

German.—Elementary grammar, composition, and about 100 pages easy reading.

French.—Same as German.

Mathematics.—Arithmetic and algebra through quadratics, or algebra to quadratics and three books of plane geometry.

History.—History of the United States, or history of Greece and Rome, or English history. One year's work.

Science.—Physical geography, or physics, or chemistry, or botany. One year's work.

The following values shall attach to each subject: English 4, Latin 4, Greek 2, German 2, French 2, mathematics 4, history 2, and science 2.

All students, whether candidates for degrees or not, must be examined on at least three subjects.

All candidates for degrees must stand examinations on subjects aggregating sixteen points, as follows:

1. For A.B.

Required—8 points	Elective—6 points from	Elective—2 points from
Mathematics 4	Latin 4	History 2
English 4	Greek 2	Science 2
	German 2	
	French 2	

2 For B.S.

Required—8 points	Elective—4 points from	Elective—4 points from
Mathematics 4	Latin 4	History 2
English 4	Greek 2	Science 2
	German 2	The four points may be taken in one subject if desired.
	French 2	

For the present, instruction may be furnished beginners in Greek, German, and French, but such work shall not be counted toward a degree when it is required for admission.

Colleges may make their own regulations concerning conditioned students, and may also accept certificates from duly accredited schools in lieu of entrance examinations.

REPORT OF THE COMMITTEE ON THE UNIFICATION AND EQUALIZATION OF COLLEGE DEGREES

MAJORITY REPORT

The undersigned were appointed a committee at the fifth annual meeting of this association to consider the "Unification and equalizing of college degrees" and to report at this meeting. In order that the matter might be thoroughly discussed the previous reports on requirements for the bachelor of arts and the bachelor of science degrees were referred to the colleges for consideration and the faculties were requested to instruct their delegates how to vote on this report.

In accordance with these instructions the committee respectfully submits the following series of propositions, not as an ideal plan by any means, but as the best that can be done at the present time, considering, especially, the

lack of uniformity in the preparation of students and in the organization and equipment of our colleges. This plan is a more modest one than that already in use in some of our institutions, but, if it fails to include all we ought to do, it is still hoped that the program here presented will materially aid the small colleges by giving them something to guide them in their efforts to improve.

Our attention is confined, for the present, to the bachelor degrees which are supposed to represent the liberal education. The bachelor degrees given in engineering and technical courses are left out of view at present. These courses are based upon the requirements for entrance submitted by another committee at this meeting.

GENERAL PRINCIPLES

Give only two bachelor degrees for all courses of liberal education, the degree of bachelor of arts for the course containing ancient languages, and that of bachelor of science for the modern language science course. Abolish all other bachelor degrees in courses of liberal education. Distinguish carefully between these degrees and the technical degrees of bachelor of engineering (civil, electrical, or mechanical) and the professional degrees of bachelor of law, divinity, etc.

These degrees should be granted only upon the completion of a regular course of study in the subjects usually counted as giving a liberal education. Each course should aggregate a total of at least 2400 hours of recitations, lectures, and laboratory work (two hours of laboratory work to be counted for one). The preparation required for entrance and the work done in the B.S. course should be equal in amount and according to as thorough methods as those in the B.A. course. All efforts at equalizing college degrees will be futile if confined to the three or four years of college work.

Candidates for advanced standing should be carefully tested on all subjects offered by them. Certificates should be accepted in lieu of examinations only from institutions requiring equivalent work. The last session of the candidate's course should be spent at the college granting the degree.

Fitness should be tested by at least two written examinations on each subject studied during each year and by a graduation thesis in the major subject of such character as to show the candidate's ability to investigate and think independently. Seminary work, frequent written reports on special investigations and reports on laboratory work should be required in the higher elective studies.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF ARTS

The four great groups of studies should be represented in the following proportions:

1. Languages and literatures, 1080 hours, including at least 240 hours of English and 480 hours of ancient languages, with weekly written work and

parallel reading, leaving 360 hours to be elected. Eighty hours of this may be devoted to the study of expression.

2. Mathematics at least 240 hours, including advanced algebra, plane and solid geometry, and plane trigonometry.

3. Natural science, 480 hours, including one physical and one descriptive science, with regular laboratory work, which should occupy at least one half of this time (two hours for one).

4. History, social sciences, or philosophy, 240 hours.

5. Leaving 360 hours to be elected from any of the groups, one to four inclusive.

Making a total of 2400 hours distributed over four years for the ordinary or three years for the best student.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE

Distributed among the four great groups of studies in the following proportions:

1. Seven hundred and twenty hours of languages and literatures, to include 240 hours of English and literature, 240 of a modern language and its literature, leaving 240 hours to be elected. Eighty hours may be devoted to the study of expression.

2. Mathematics, 240 hours, including advanced algebra, plane and solid geometry, and plane trigonometry.

3. Natural sciences, 720 hours, including at least one physical and one descriptive science. At least one half of this time should be devoted to laboratory work.

4. Two hundred and forty hours of history, social science, and philosophy.

5. Leaving 480 hours to be elected freely among the groups and making a total of 2400 hours.

Institutions requiring more for entrance than this association does can reduce the amount of prescribed work in those groups in which they are ahead and increase the amount set aside for elective courses.

In addition, physical culture should be regularly required in the first two years of both courses to the amount of at least 240 hours.

No time has been taken out for examinations or holidays, but it is assumed that such time will be about equal in all the colleges.

The committee is pleased to report that the program submitted here has met with the hearty approval of many of the colleges and has been provisionally adopted by several of them and by the Southern Methodist Board of Education.

In conclusion, let us make our bachelor degrees signify something, and so give them both the dignity of the old B.A. To this end we earnestly recommend that institutions belonging to this association refuse to accept any bachelor degrees as the basis for advanced degrees or other honors, unless

given upon courses fairly equivalent in educational value to those here laid down. We recommend that our graduates write the name of their colleges after their degrees. [Signed]

CHARLES W. DABNEY
R. B. FULTON
A. R. HOHLFELD
B. L. WIGGINS

MINORITY REPORT

W. S. SUTTON

As a member of the committee to consider the unification and equalizing of college degrees, I beg to express my hearty approval of many recommendations made in the report of the committee. I believe that degrees should be granted only upon the completion of a regular three or four years' course of study in subjects that are justly entitled to be called liberal arts. Degrees which are conferred by way of compliment, and which do not represent as much as three or four years' rigid training, are cheap and are a menace to educational honesty and progress.

I believe, furthermore, that degrees representing liberal culture should be carefully distinguished from technical degrees, and that each technical degree should have requirements peculiar to itself. For this reason it is certainly proper to refuse to grant the degree of B.S. to one who has completed a course in engineering, or the mechanic arts, or pharmacy, etc.

It is certainly proper to require candidates for advanced standing to submit to careful tests upon all subjects offered by them, and certificates from institutions that do not maintain the standards of this association should not be accepted in lieu of examinations.

With respect to requiring that the last session of the candidate's course be spent at the college granting the degree, and concerning the examination tests upon each subject studied, I agree with the views set forth in the committee's report.

Its recommendation concerning seminary work, frequent written reports on special examinations, and reports on laboratory work, I consider eminently wise.

I beg to dissent from the recommendation that there be two bachelor's degrees to represent liberal education. I see no reason why more than one degree is necessary. For many years the degree of Bachelor of Arts has been considered the customary evidence of liberal scholarship and training. I see no reason, therefore, for adding another degree which will be supposed to stand for the same thing. There might with equal propriety be two bachelor's degrees in law, in medicine, in theology, or in any technical school. If the great purpose of academic instruction in the university be to promote liberal

education, then any person that meets such requirements as will justify him to the claim of liberal culture should be allowed to receive that degree which is generally considered expressive of the education to which a free man is entitled.

It is manifest that there are a great many subjects which the world now considers worthy to be classified as liberal arts — that is to say, subjects having worth equal to that of Latin, Greek, or mathematics. There being so many subjects among the liberal arts, it is impossible to require a student to become familiar with all of them, or to gain a reasonable acquaintance with the elements of each of them. The conclusion follows that by pursuing any one of a great number of requirements for liberal education, one may be entitled to receive a bachelor's degree.

From the view expressed in the committee's report, that our colleges are not yet ready to adopt the one-degree basis, I wish to dissent. In my opinion the opening up of other avenues to the B.A. degree will in no way interfere with the avenue which now exists. All students graduating from a university should, in my judgment, have training equal in both quantity and quality to that now prescribed for B.A. students. This would involve increasing, in many institutions, the number of entrance requirements, so that natural sciences and the modern languages would be incorporated. Students desiring to obtain liberal culture through the study chiefly of the modern languages and the natural sciences could offer these for entrance. In the event that they should be unable to offer these subjects for entrance, they could remove the conditions for entrance while in the university, but they should not be allowed to count this work towards a degree.

I cannot subscribe to the recommendation of the committee that every student seeking graduation shall be required to take so many subjects, thereby abridging, to a great extent, his privilege of election. I very much doubt the wisdom of compelling every student that may enter the university to take courses in history, social science, philosophy, mathematics, and the natural sciences. While it is true that every one of these subjects is of the very greatest importance, I do not believe that it is true that every one of them is of transcendent value to every individual. I doubt very much the educational value of any subject which is pursued by a student that has neither taste nor talent for that subject.

In general, I believe that the following requirements for the B.A. degree will be sufficient to guarantee liberal culture to every one that may wish to secure it:

1. Four years (in cases of exceptional students three years) of rigorous training.

2. Prescribe for the freshman year English, mathematics, and foreign language (ancient or modern), and physical culture. In this year, also, a student could have the privilege of electing from courses in history and the natural sciences.

3. Permit the student to elect the remainder of his courses requisite to securing a degree, his election, however, being subject to the approval of a faculty committee. It would be perhaps advisable that each student, after his sophomore year, select a major subject, and that his other courses be selected under the direction of the professor in charge of that special subject.

4. No student should be granted a degree unless he completes three full courses in at least two subjects other than foreign languages and literature.

5. No student, during his senior year, should be permitted to take any courses that are offered to freshman students.

6. At least four courses (480 hours) in the study of foreign languages should be required.

I regret that the limited time at my disposal prevents my giving such a discussion of the problems at issue as their importance demands.

With respect to the granting of but one bachelor's degree, the great majority of the members of the faculty of the University of Texas sanction the view which I have presented. I am confident that everyone of my colleagues cordially endorses the committee in the recommendation that institutions refuse to accept any bachelor's degree as the basis for advanced degrees or other honors unless given upon courses equivalent to those laid down in the committee's report.

BOOK REVIEWS

Outlines of Economics. By RICHARD T. ELY. The Macmillan Company, New York, 1900.

IT is interesting to observe how far Mr. Ely has deviated in this treatment of economics from the type of the traditional political economy of the English school. The work is divided into four parts or books: "Historical Introduction," "Private Economics," "Public Economics," and "The Development of Economics." The major part of the traditional political economy is devoted to a discussion of what Mr. Ely calls private economics, while in a small portion is usually discussed public finance, which is treated here under the head of "Public Economics."

This work shows evidence of the convergence of the economic thought of the three great schools — the German historical, the English classical, and the Austrian. The principles of the German historical may be seen in almost every page of the book. The emphasis given to public economics is especially characteristic of the German school. In the discussion of private economics the fourfold division of the subject, characteristic of the English classical school, into production, exchange, distribution, and consumption, is still retained. The influence of the Austrian or the psychological school is seen in the explanation of the theories of value, capital, and interest.

Mr. Ely has written extensively on various economic subjects, but in this work alone is to be seen the setting the author gives the science, and his views on the relative importance of the various subjects of political economy. That the work was written primarily as a text can readily be seen from the simplicity of development, the summaries at the close of each chapter, and the suggestive questions bearing on the topics discussed. From Mr. Ely's simplicity of statement, his brevity, and his method of illustration, many of the text-book writers of today should receive an instructive lesson. Even subjects usually most difficult to make clear — the marginal utility theory of value and the influence of bargaining in determining market prices — are presented in a manner which makes them easily comprehended.

The first part of the book is devoted to economic history. The author here thus expresses the view that economic history should precede economic theory. This is decidedly a movement in advance, that it is well to know something of economic institutions and their development before the economic theories which interpret them. In this historical introduction are discussed the economic life of the uncivilized, semi-civilized, and civilized man, the industrial revolution in England, the economic history of the United States, the nature of the subject of economic study, and its relation to the other social sciences.

In the treatment of private economics the author's interests center most largely in the problems of distribution. To the laws governing the shares of wage-earners much space is given. The labor movement, labor organizations, profit-sharing, and corporations are each discussed in separate chapters. The surplus remaining after wages and rent are paid is included under "(1) replacement of capital, (2) insurance

against loss, (3) wages of superintendence, (4) interest on capital, (5) pure profit." Interest is explained as "the result of the fact that future goods, on account of their present inaccessibility, have a lower value than present goods." Pure profit is considered as "a rent, usually temporary, paid to managing ability." "Monopoly profit" is considered as "a rent paid to advantages of opportunity, as location, privilege, etc., when exclusively controlled by individuals.

Mr. Ely's contributions to the development of economic theory lie most largely in the field of public economics, and consequently this is the most valuable part of the work. He makes public economics include the activity of the state in private industry as well as in industries that are entirely public. The author maintains that "by far the most important function of the state is the establishment and maintenance of those fundamental laws which underlie all private economic activity." Some of the fundamentals to the existing social order which are discussed are the right of private property with its limitations and the guaranteed privileges, such as trade-marks, copyrights, and patents, the right of contract, and personal liberty.

These rights and privileges conferred by the state, are considered absolutely essential to private industry. All of them are modified from time to time for the purpose of promoting human welfare, "the only possible basis of human rights." Mr. Ely believes that the right of contract should be limited more than it is at present; likewise the right to establish enterprises, formerly much limited, but now nearly free, should be more restricted. "In the furnishing of free industrial facilities, such as roads, harbors, etc., is seen in its simplest form the participation of the state in industry. From this we have all forms of state participation in industry to the ownership and operation of plants for the manufacture and distribution of commodities. The author considers private monopolies "inherently objectionable." The ownership and operation of private monopolies by the state is deemed eminently desirable. No one in our country has urged more strongly than Mr. Ely the assumption of this function by the state. In the treatment of public revenues and expenditures the various sources of income and purposes of expenditure are classified and discussed.

Mr. Ely does not follow the older economists in making a distinction between science and art — the treatment of *what is* as distinct from *what ought to be*. He frequently passes judgment upon economic institutions, and from a knowledge of our experience with them he states what lines of action ought to be followed.

From the point of view of scope no American work can fairly be compared with the *Outlines*. All interested in the advancement of economic science and the popularizing of economic doctrines owe much to Mr. Ely for this clear, comprehensive, and logical statement of the scope and principles of economic science.

J. E. HAGERTY

THE UNIVERSITY OF PENNSYLVANIA

Eleven Orations of Cicero, with Introduction, Notes, and Vocabulary. By ROBERT W. TUNSTALL, Principal of the Norfolk Academy. Gildersleeve-Lodge Latin Series. University Publishing Company.

THE author claims for his book a closer adaptation to the actual needs of pupils than is found elsewhere. Upon the first speech against Catiline, which it is expected will be first read, there are, in addition to unusually full summaries of the chapters in

the text, twenty-five pages of notes. There are both advance and review questions upon the notes in this speech.

There are ample introductions to the several speeches, upon the subject-matter, and an appendix of fifteen pages upon "The Last Century of the Republic," "Duties of the Assemblies," and "Notes on the Magistrates." The notes are supplied with abundant references to the grammars of Gildersleeve, Allen and Greenough, Bennett, and Harkness, with a good deal of additional syntactical comment and with frequent translations, after the usual fashion. It is but just to add that sometimes questions are asked and the literal translation put by the side of the free.

The material for reading, it will be noted, is large. The eleven orations are given without abridgment, and are as follows: the four against Catiline, Verres (Actio Prima), the Manilian Law, Archias, Milo, Marcellus, Ligarius, and the Ninth Philippic. The author does not believe in the somewhat common practice of giving a few of the letters with the orations; their style and content he thinks too different, and unsuited to the pupil. The vowels are unmarked, except in the Ninth Philippic.

ISAAC B. BURGESS

MORGAN PARK ACADEMY

Experimental Chemistry. By LYMAN C. NEWELL. D. C. Heath & Co., 1900. Price, $1.10.

Teachers' Supplement to the above.

Richter's Inorganic Chemistry. Translated by EDGAR F. SMITH. Fifth edition. Blakiston, Philadelphia, Pa.: 1900. Price, $1.75.

COMMON as new text-books of chemistry for high-school work have become, the former of these two works is worthy of special notice on account of some innovations which its arrangement presents. An attempt is made to investigate, either in the class room or the laboratory, the proportions by weight in a number of typical compounds, and the author professes to have connected the results of these with the theory in such a manner as to provide a firm foundation for the latter. The selection of such experiments is in most cases judicious, although we have not observed any novelties, and the directions are sufficiently explicit for carrying them out. The book does not pretend to give a complete account of the subject-matter which should make up the course. It appears to be intended very largely to supply the connective tissue and to carry the thread of the theory. In each chapter an elaborate list of topics and references shows how each subject may be pursued historically and in the direction of a wider basis of fact and a more complete elaboration of the theory. The references should be of great value to the teacher, although much judgment will be required, since it would be easy to produce a most unbalanced course by giving undue weight to one or other of the above aspects of each subject. The *Teachers' Supplement*, which is supplied to teachers only, gives answers to the many problems in the book, valuable hints in regard to the nature of the apparatus to be provided and the best mode of purchasing it, "tips" in regard to various laboratory operations, and many hints in didactics.

Unfortunately the program has not been carried out so successfully as we could

have wished. We note a tendency to elaborate subjects in the text and by means of the references, while the fundamental things which underlie the subject are passed over without explanation. Thus, for example, efflorescence and deliquescence are explained in a way which would be quite clear to a student perfectly familiar with the phenomena of vapor tension and its lowering by the presence of substances in solution. If the introduction of these two topics implies that the teacher is expected to prepare the pupil for them by the necessary foundation work, and the numerous other cases in connection with which the same criticism could be made are intended to be treated in the same manner, the whole course would be fairly extensive for a university. To give one other example, after the proportions by weight of the constituents of some compounds have been measured, the chemical equation is discussed. We are surprised to find, however, that instead of combining weights being used as the basis for the symbol, the *atom* and *molecule* are suddenly mentioned for the first time, without the least explanation. We fear that the proper linkage of the measurement of weight with the construction of the equation could never be grasped by any beginner from Mr. Newell's account of it. He says of chemical equations, "They are the result of experiment." He then puts together the symbols representing one of the quantitative experiments and adds, "This equation means that one atom of magnesium unites with one atom of oxygen and forms one molecule of magnesium oxide." The beginner will not be able to find anything like counting of atoms in the experiment in question.

The treatment of chemical theory is certainly exceedingly difficult, and we should hesitate to say that any given treatment, if correct, could not be used by a skillful teacher in the instruction of an intelligent class; but the whole theory is presented by Mr. Newell in what appears to us to be such a topsy-turvy fashion, that we should feel grave doubts in regard to the success with which the average teacher could use the book.

Two serious errors in the table on p. 144 will probably prevent the reader from understanding the connection between density and molecular weight, and, by almost destroying this important link in the chain, make a proper understanding of the determination of atomic and molecular weights impossible. Even if this were remedied, the treatment of this subject, while very good in parts, is unfortunate in its arrangement.

Richter's *Inorganic Chemistry* is so well known that a detailed criticism of the book is not required. The fifth American edition is a great improvement upon the fourth edition, published four years ago. The quantity of matter in the book is considerably greater, and the nature of the additions as well as of the changes which have been made in the original text cannot but be commended in every part. The book has been practically rewritten. We note the introduction of the idea of equilibrium and its discussion in connection with typical examples; the adoption of atomic weights with the basis $O = 16$; reference to the electric furnace and to carbides, and an excellent outline of the electrolytic theory of solution. It would perhaps have been too much to expect that the latter should have disseminated its influence beyond the chapter in which it is treated specifically. Taken as a whole the book presents in a compact form a remarkably clear account of everything that makes up elementary general chemistry.

ALEXANDER SMITH

THE UNIVERSITY OF CHICAGO

Elements of Physics. By C. HANFORD HENDERSON, Principal Pratt High School, Brooklyn and JOHN F. WOODHULL, Professor of Physical Science, Teacher's College, Columbia University, New York: D. Appleton & Co., 1900. $1.10.

AMONG the multitude of elementary text-books in physics which have been published during the past few years it is refreshing to find one whose chief aim is not to adorn a disjointed skeleton of incongruous laboratory exercises. The authors of this book have recognized the impossibility of deducing from a limited number of rude experiments those physical facts and principles which the secondary school pupil is able to appreciate and ought to understand. There seems also to be no undue striving for the strikingly original but the essential features of the science are presented in a simple and conventional manner. Wherever possible the effort is made to humanize the subject by showing how man has utilized its principles to procure his own comfort and well-being. This effort to interest seems in some cases to have been carried beyond the bounds of the subject in hand as in the section which deals with the eclipses of the moon and in the chapter on music. These subjects rightly belong to other branches of science. The majority of the side references, however, are well chosen and instructive.

Probably the weakest point in the book is the lack of mathematical presentation. Few of the conclusions or laws are stated in the concise form of the mathematical formula and the mathematical demonstration and solution are rarely used or explained. As physics is inherently a mathematical science it is essential that an elementary text-book should treat it as far as possible mathematically. Higher mathematics must of course be eliminated but algebra and geometry should be called upon wherever needed. This reluctance to apply mathematics is particularly shown in the chapter on light. It would appear here that the position of the image formed by a mirror or a lens is a physiological impression and not a mathematical certainty. If the laws of reflection and refraction as stated are true, then the image of an object must have a definite relation to the object and it is not a case of appearance but of actuality. A statement like the following cannot fail to be misleading. "The image of a straight object appears curved in either convex or concave mirrors only when the object is very near to the mirror." Physiologically it may appear, but physically its condition is certain. This lack of simple geometrical demonstration renders the whole discussion of the formation of images hazy and indefinite.

In the treatment of electricity it is doubtful if any attempt should be made to explain what electricity is. Probably the word ether must of necessity be used, but "an ether vortex, an ether stress, and ether flowing as a stream" are expressions which, if the pupil uses them at all, will be likely to give wrong impressions. If he attempts to base his idea of electricity on his appreciation of the meaning of such phrases electricity will almost inevitably appear to him as a form of mass action and this conception will stand in the way of his farther progress. Probably all that the secondary pupil can possibly do is to get a knowledge of what electricity does and the means by which it is generated. These subjects the authors have discussed in a simple and practical manner steering clear of complicated phenomena and of intricate machines. Since, however, the modern theory of ions is rapidly displacing the older theory of the action which takes place in a battery it would hardly seem best to endeavor to explain this by the use of a chemical equation. It is doubtful also if chemical symbols can properly be used when referring to a mass of substance as "hydrogen, H."

The illustrations are well chosen and admirably adapted to illuminate the difficult points in the text. Many of them are of simple but ingenious apparatus which the pupil can readily make for himself. Another feature of the book which cannot fail to increase its attractiveness is the collection of portraits of notable physicists.

The authors in their preface set themselves the task of preparing a "readable," "informational," "humanized" presentation of the subject of physics. They are to be congratulated on having so well accomplished the task they set themselves. The book can be used to advantage with any laboratory manual to round out a comprehensive course, is suitable for schools that have limited laboratory facilities and will be an excellent book to supplement many of the texts now in use.

WILLIAM H. SNYDER

WORCESTER ACADEMY

Famous Geometrical Theorems and Problems with their History. Parts I and II. Boston. D. C. Heath & Co. 10 cents each.

IN these two pamphlets the author has collected a number of proofs that the sum of the angles of a triangle is two right angles, that the square on the hypotenuse of a right angle is equal to the sum of the squares on the sides, and has made a number of remarks on the quadrature of the circle.

The thing attempted: viz., to supply teachers of mathematics with monographs which will assist them to obtain a more connected view of the elementary part of their science, deserves to be done and to be well done. This end cannot be reached by making a compilation of alternative proofs of propositions or by accumulating personal items which, however interesting, have nothing to do with science. The writer has made both of these mistakes. He gives twenty-six proofs of the proposition on the right triangle, of which four or five are interesting. The really valuable information which he gives on the history of the quadrature of the circle might have been stated in five pages out of the twenty which are given, ten of them being wasted on the vagaries of one circle squarer who happened to be unusually audacious.

A serious defect of these pamphlets is that they are not very clear. The seeker after scientific information will have to hunt it out and piece it together. The author has sought to create interest in mathematics by the help of things outside mathematics and it is natural that he should have neglected what ought to have been his subject. An interest so created will be factitious and in the end disappointing. The preface can however be recommended since it contains a number of references to standard books on the history of mathematics.

J. H. MCDONALD

BURLINGTON, IA.

On Southern Poetry Prior to 1860. By S. E. BRADSHAW. The B. F. Johnson Publishing Co., 1900.

On Southern Poetry Prior to 1860 is the title of a thesis presented to the University of Virginia by Sidney Ernest Bradshaw. As published it makes up a volume of 160 pages, including a table of chronology and the bibliography. The period selected for review is from 1607 to 1860—or from the settlement of Jamestown to near the outbreak of the Civil War. Without drawing distinctions too narrowly a southern author is understood to be one who was born or whose work was done or

at least published in that South whose geographical limits were drawn by the Civil War, but including Kentucky and the District of Columbia. The scheme of treatment is chronological, owing to the fact that the greater portion of southern poetry was produced independently of historical events and beyond the influence of any school or group and hence the poets appear as individuals with little other than time relationship. It is perhaps a sign of the indifference of American scholars to their own literature that Mr. Bradshaw's work, at this late date, should be the mere collecting, tabulating, and ordering of materials. His bibliography of southern poets is one of the first to be made, and he is probably the first to attempt to arrange his material in chronological sequence. Having only elementary work to do Mr. Bradshaw makes no attempt at criticism, though he summarizes the general literary features of each century, notes the influence of English authors — Dryden, Pope, Byron, and Wordsworth, and affirms that a considerable amount of the poetry he has examined is of a high order of merit. The present reviewer has no means of knowing how accurate and complete the thesis is in all its biographical and bibliographical details, the original materials being nowhere accessible to the general student, but even if imperfect it points the way to a field of research that is well nigh untouched and which would seem to be the special property of southern students. It may remind the students of the North and West that there is work of the same kind to do for their own localities, though the necessity of such work is not so great or the difficulties so numerous as of this task of tabulating the versifiers of the Old South.

O. L. TRIGGS

THE UNIVERSITY OF CHICAGO

Algebra for Schools. By GEORGE W. EVANS, Instructor in Mathematics in the English High School, Boston, Mass. New York: Henry Holt & Co.

THIS new text-book on algebra possesses many new features, some of them quite radical. One of these is in the arrangement of chapters. But each chapter is so clean-cut and concise in its presentation that the usual order can be followed. One point in which the book takes a long step forward is in the matter of making algebra concrete. Practical problems are brought forward at every new turn in the subject. Nearly thirty-five hundred examples are given, a large part of which are problems to be stated, and all are prepared for this book, not stock-problems taken from other works. Unusual stress is laid on explanation of the successive steps in the solution of equations. Literal equations and the handling of formulæ are each given a chapter by themselves. The practice given in these chapters cannot fail to be useful in subsequent work in geometry, physics, and mechanics. The emphasis given to the solution of equations by factoring will be gratifying to teachers who have used text-books in which that method was given merely a passing notice at the very close of the subject of quadratic equations.

On the whole, the subject of algebra is treated in a straightforward, logical manner. The publishers have given us a book which is beyond criticism typographically. The work deserves careful examination by all *thinking* teachers of algebra.

E. D. GRANT

MICHIGAN COLLEGE OF MINES,
Houghton, Mich.

Memory, an Inductive Study. By F. W. COLGROVE. With an Introduction by President G. Stanley Hall. New York: Henry Holt & Co., 1900. Pp. xii+369.

A BOOK on memory at the present day must be either a monograph on some special phase or very nearly a text-book on psychology. Memory is no longer regarded as a "faculty of the mind." It is rather a function of the soul, which, like oxidation in the body, is always and everywhere present.

Dr. Colgrove has skillfully presented this memory coefficient as it is related to other processes, emphasizing, if anything, the biological relations, and thus leaving less important the very excellent chapters on association, interest, attention, and apperception.

The portion on memories, and especially the diagraming, might have been simpler if the author had consulted Sollier's recent book on *Hysteria*, as well as that on *Memory*.

The curves on pleasant and unpleasant memories, and those on earliest memories, certainly show facts of a general nature which could not have been anticipated, and which could not have been obtained except by the *questionnaire*.

The book is well calculated to broaden as well as clarify the usual notions, and perhaps particularly the teacher's notion on the subject of memory. It is compact, well written, well printed, and continuously interesting.

COLIN A. SCOTT

STEVENS POINT, WIS.

Rhetoric and Higher English. By G. H. BELL. Chicago: Ainsworth & Co., 1900. Pp. 375. Price, $1.

Studies in English and American Literature. By G. H. BELL. Chicago: Ainsworth & Co., 1900. Pp. 599. Price, $1.25.

THESE are honest compilations, adapted to the supposed needs of a denominational college. The *Studies* consists (1) of a series of brief and fairly readable biographies, (2) of selections from English and American authors, and (3) of naïve questions upon the second part. The authors from whom the selections are taken are of all degrees of eminence, from Alonzo T. Jones to Shakespeare. The selections, arranged under such heads as "In Honor of the Creator," "Education, Morals, and Religion," "Studies in Nature," etc., are as miscellaneous as can well be imagined. Hannah More appears to be the compiler's favorite author.

In the *Rhetoric* one distinguishes an old-time flavor, reminiscent of Quackenbos, Day, and J. S. Hart. The author's high seriousness and sweetness of temper infuse a little life into the well-worn phrases.

FRED NEWTON SCOTT

THE UNIVERSITY OF MICHIGAN

EDITORIAL NOTES

GEORGE HERBERT LOCKE.

THIS is an "election" number. It is unpremeditated on our part. This subject is in the air. The Association of Colleges and Preparatory Schools of the Southern States had its most interesting and animated session when discussing this problem; there was enthusiasm and warm feeling evinced at the recent Conference of Affiliated Schools of the University of Chicago when this was the leading subject for debate. Some of the papers on those occasions are to be found in this number, and we feel that they will be very suggestive to the high-school principals who are face to face with this growing demand for greater freedom of choice.

Mr. M. W. KEATINGE, who is known to students of education in this country by his excellent translation of *The Great Didactic* of Comenius, has been contributing to the December and January numbers of the London *Journal of Education* a very scholarly and practical exposition of the important subject of the training of teachers. It is a long article, excellently long, and we quote a paragraph that our readers may get a glimpse of his attitude.

> In considering what other advantages a student may derive from a training course, it will assist us to ask what qualifications we have a right to ask from a schoolmaster in connexion with his class-room work, and we shall not be unreasonable if we formulate our demands as follows: He should be acquainted with the subject that he teaches; he should be enthusiastic about it; he must have some aim in education beyond the inculcation of facts; he must be in sympathy with his boys; if he teach a subject that stands in close relation to conduct, he must realize that lessons in morality may be indirectly brought home to his class, and that this indirect moral teaching is often far more effective than direct moral preaching; he must know how to manipulate his subject; and he must have a sense of proportion. Now a training course will not teach a man his subject, nor make him enthusiastic about it, any more than it will give him a sense of humour, a good and strong character, or a majestic presence. But it will clear up his mind as to his aims, and it will give him a sense of proportion and help him to manipulate his subject; it will teach him to be methodical. I am driven to use this word "methodical," though I am aware that it has an unattractive sound. There is apparently a type of mind that does not understand that a methodical man can be inspiring, much as another class of mind fails to see that conservatism can be consistent with progress. To say that a man is "methodical" hints that he is little else, and as if you were to call a girl "sensible" or a man "highly respectable." Yet the word merely means "orderly," and a "methodical" man is one who uses his gifts, whatever they may be, in an orderly manner. Unless

you are orderly in teaching, you will produce little effect upon a large class; just as, if you are no more than methodical, there will be little result that is worth having. The mechanism of a steam engine is necessary if the force latent in the steam is to be properly applied; but without steam it is a mass of inert machinery. In the same way, unless you are methodical in teaching, your teaching power is sure to be wasted, and a man who teaches unmethodically is like the crudest form of engine, or, rather, is like one whose machinery refuses to move, while the steam escapes through a crack in the boiler. So that a training course, by assisting a student to be methodical, helps him to use to the utmost any teaching ability that he posesses, to economize his strength, and to get more intelligent work from his pupils. It is from a misunderstanding of what the word "methodical" really means in this connexion that the charge of stereotyping is brought against training courses. If this charge were well founded, it would be a very serious one indeed, and, if any system of training were likely to produce monotony in teaching, it should be sturdily avoided.

Those who are identified with the departments of education and teaching in our universities will indorse his closing words:

If we place before the student rule-of-thumb methods and ask him to imitate them, if we interfere with his freedom in the management of detail more than is absolutely necessary, the danger may become a very real one. But these conditions do not exist in a sound professional training. In deciding what general line he will take, and what should be done at the moment, a teacher must be left free as the air that blows between the heaven and the earth. To trammel him, to make him fit his procedure into compartments devised and constructed by another mind, would not merely cramp his teaching power, but would destroy it altogether. Far different is the result of the training that I have sketched. To be shown principles, to be urged to apply these principles on his own lines, and to use his ingenuity in striking out effective lines, in giving a vigourous and fresh presentation of subject-matter, and in making his boys use their wits and apply their minds — this cannot stereotype a teacher, but will rather indicate to him a spring of suggestiveness, ever flowing, by drawing from which he can refresh the well-worn subjects of school instruction, and quicken them to new life and vigour.

NEW ENGLAND seems to be still the home of oratory, for nearly all the correspondence which we have received on the subject of "rhetoricals" in high-school work has been from that part of the country. Last month we published the experience of the principal of a high school in New Hampshire, and we have just received a very interesting letter from Mr. Walter H. Young, principal of the Laconia High School in the same state, wherein he offers some suggestions from his experience. He says:

By "rhetoricals" we mean, I suppose, essay writing, declamation, and debating. The reading and writing of essays properly belongs to the department of English which requires a definite number each year, in addition to short weekly exercises. These are supplemented by the system of reports required in the department of history. Therefore, it seems to me, ample practice is afforded in this field of rhetorical work.

I have come to doubt the advisability of requiring declamations and recitations, except where an unusually strong teacher has charge of the work, and devotes a large

part of his time to class instruction and individual drill. Until within a year one recitation a week in rhetoricals was required of every pupil. Light calisthenics, breathing exercises, enunciation, and interpretation, were some of the salient features of the work which, in theory at least, was very good. In addition, two declamations were required from each pupil. *If the right teacher can be secured*, this method will yield fair results. At present, our rhetorical work is done by three organizations of the pupils. The boys have a debating club, and the girls both a debating and a literary club. The clubs meet every two weeks, on Fridays, and an hour of school time is given to them. The officers are pupils and are elected by the pupils. Constitutions were adopted, and there is some practice in parliamentary law. The debating societies are what their names imply, and the debate constitutes the program. The interest is very lively. For instance, at the last meeting of the boys' club the time spent in debate was fifty minutes; the four regular contestants consumed twenty, and then the subject was open for general discussion. At no time during the remaining thirty minutes did the debate lag, and sometimes three or four tried to get the floor at the same time. Before the debate, three judges were appointed: one each by the affirmative, the negative, and the president. After the regular debate the judges retire to make a decision.

Such is my experience with the rhetorical work in this high school. After trying various methods, I am heartily in favor of separate societies for boys and girls. Further, I believe that the debate, with some practice in parliamentary law, should constitute the program.

THE College Entrance Examination Board of the Middle States and Maryland has issued the following document giving a general statement of the work of the board. This bears a very strong resemblance to the Examination Board for Matriculation in the province of Ontario, Canada, where the universities and the Department of Education have joined together to hold examinations for entrance to the universities and for certificates (non-professional) to teach in the public schools.

This board was organized on November 17, 1900, after a series of preliminary conferences, in order to put into effect the desire expressed in the following resolutions, which were passed unanimously at the Annual Meeting of the Association of Colleges and Preparatory Schools in the Middle States and Maryland held at Trenton, N. J., December 2, 1899:

Resolved, That this association urges the early establishment of a joint College Admission Examination Board, composed of representatives of colleges and of secondary schools in the Middle States and Maryland, which shall endeavor to bring about as rapidly as possible an agreement upon a uniform statement as to each subject required by two or more colleges for admission: to hold or cause to be held, at convenient points, in June of each year, a series of college admission examinations, with uniform tests in each subject, and issue certificates based upon the results of such examinations.

Resolved, That in case such a board be established before the next meeting of this association, the executive committee be empowered to designate the representatives of secondary schools to serve upon such a board until December 1900.

Resolved, That the several colleges in the Middle States and Maryland be requested by this association to accept the certificates issued by such joint College Admission Examination Board, so far as they go, in lieu of their own separate admission examinations.

The board includes a representative of each college in the Middle States and

Maryland which has a freshman class of not less than fifty members, except Princeton University. The five representatives of secondary schools upon the board are appointed by the Association of Colleges and Preparatory Schools in the Middle States and Maryland, to serve for a term of one year.

The certificates to be issued by the board to those students who take the uniform examinations will be accepted for such subjects as they cover by the coöperating colleges and by Princeton University. It is assumed that they will also be accepted by all colleges, wherever situated, which admit by certificate. It is hoped that all other colleges will accept them as a satisfactory alternative for their own separate admission examinations.

No college which accepts these certificates in lieu of separate admission examinations is asked to surrender its right to enforce such standards of excellence as it pleases, or to make such allowance as it wishes for character and capacity on the part of students applying for admission. The certificate will simply state that the holder was examined at a stated time and place in specified subjects and that as a result of such examinations he received the rating entered upon the certificate. Each college will determine for itself what minimum ratings it will accept as satisfactory.

It is hoped that the uniform examinations held by the board will, in time, supersede all separate admission examinations now held by the several colleges. The manifest advantages of the examinations held by the board are:

1. That they are uniform in subject-matter.
2. That they are uniformly administered.
3. That they are held at many points, to meet the convenience of students, at one and the same time.
4. That they represent a coöperative effort on the part of a group of colleges, no one of which thereby surrenders its individuality.
5. That they represent the coöperation of colleges and secondary schools in respect to a matter of vital importance to both.
6. That by reason of their uniformity they will greatly aid the work of the secondary schools.
7. That they will tend to effect a marked saving of time, money, and effort in administering college admission requirements.

The definitions of subjects in which examinations are to be held are not framed arbitrarily, but are those agreed upon and recommended by the Committee of the National Educational Association on College Entrance Requirements, in consultation with leading organizations of American scholars.

The requirement in English is the existing uniform requirement.

The requirement in history is based on the recommendations of the Committee of Seven of the American Historical Association.

The requirements in Latin and in Greek are in as close accordance as possible with the recommendations of the American Philological Association.

The requirements in French and in German follow the recommendations of the Committee of Twelve of the Modern Language Association.

The requirements in mathematics, physics, and chemistry are based upon the recommendations of the Committee of the National Educational Association.

The requirements in botany and in Zoölogy are not yet formulated. No examinations in those subjects will be held in 1901.

The uniform college admission examinations will be held on June 17, 18, 19, 20, and 21, 1901, at points to be announced hereafter. A schedule will be issued showing the arrangement of the examinations and the time allotted to each. Each student examined will pay a fee of five dollars, whether the examination is preliminary or final, partial or complete. The pamphlet containing the definitions of the several requirements will be sent on receipt of ten cents in stamps.

The chief examiners for 1901 are as follows:

Chemistry — Professor Ira Remsen of Johns Hopkins Universty: *English* — Professor Francis H. Stoddard of New York University; *French* — Professor A. Guyot Cameron of Princetown University; *German* — Professor M. D. Learned of University of Pennsylvania; *Greek* — Professor Herbert Weir Smyth of Bryn Mawr College; *History* — Professor Lucy M. Salmon of Vassar College; *Latin* — Professor Charles E. Bennett of Cornell University; *Mathematics* — Professor Henry Dallas Thompson of Princeton University; *Physics* — Professor Edward L. Nichols of Cornell University.

The associate examiners in each of the subjects above named will be announced in January 1901. All correspondence relating to the work of the board, including applications on behalf of students for examinations in June 1901, should be addressed to Secretary of the College Entrance Examination Board, Sub-Station 84, New York, N. Y.

THE Society for the Promotion of Engineering Education has issued a preliminary report on "American Industrial Education, What Shall it Be?" This discusses the place of the manual-training school, manual training and art education as a part of all public-school education from the kindergarten through the high school (taking the central school at Menomonie, Wis., as the best illustration), the state agricultural and mechanical colleges, the higher engineering colleges, monotechnic or trade schools, supplementary schools for industrial workers, and higher colleges of commerce. This report is supplemented by a very interesting discussion and we are promised a thorough investigation into these questions by this society. There is much that is suggestive and valuable in this preliminary report, and we hope that the society will push the detailed report, for the educators of the country are looking for something authoritative on this great subject.

NEW PUBLICATIONS

EDUCATION, PSYCHOLOGY, AND PHILOSOPHY

The Thought Reader. Book I. By Maud Summers, Goethe School, Chicago. Size 7½×5½ in.; 114 pages. Price, 35 cents. Boston: Ginn & Co.

New Practical Speller. By James H. Penniman, DeLancey School. Size 7½×5 in.; 154 pages. Price, 20 cents. Boston: D. C. Heath & Co.

Nature-Study Readers. IV. Harold's Explorations. By John W. Troeger and Edna Beatrice Troeger. Size 7¼×5 in.; pp. xvi+280. New York: D. Appleton & Co.

American Industrial Education, What Shall it Be? Preliminary Report of a Committee of the Society for the Promotion of Engineering Education. Magazine size; 74 pages. Price, 25 cents. Ithaca, N. Y.: Henry S. Jacoby, secretary.

Dickens as an Educator. By James L. Hughes, Inspector of Schools, Toronto. International Educational Series. Size 7½×5 in.; pp. x+318. Price, $1.50. New York: D. Appleton & Co.

Sanity of Mind; A Study of its Conditions, etc. By David F. Lincoln, M.D. Size 7½×5 in.; pp. vi+177. New York: G. P. Putnam's Sons.

The School Speaker and Reader. Edited by William DeWitt Hyde, President Bowdoin College. Size 7½×5 in.; pp. xxii×474. Price, 90 cents. Boston: Ginn & Co.

Systematic Methodology. By Andrew Thomas Smith, State Normal School, Mansfield, Pa. Size 7½×5½ in.; 366 pages. Price, $1.50. Boston: Silver, Burdett & Co.

Proceedings and Addresses of the Thirty-ninth Annual Meeting of the National Educational Association. Size 9¼×6½ in.; 810 pages. Chicago: University of Chicago Press.

L'Istruzione Elementare. Bollettino Ufficiale del Ministero del'Istruzione Publica. Paper cover; 390 pages. Roma: Tipografia ditta L. Cecchini.

ENGLISH LANGUAGE AND LITERATURE

Jesus Christ and the Social Question. By Francis Greenwood Peabody, Harvard University. Size 8×5¼ in.; 373 pages. Price, $1.50. New York: The Macmillan Company.

The Stories of my Four Friends. By Jane Andrews. Edited by Margaret Andrews Allen. Size 6¾×5 in.; pp. ix+100. Price, 45 cents. Boston: Ginn & Co.

Selections from the Bible. For use in schools. Arranged by John G. Wight, Wadleigh High School for Girls, New York City. Cloth, 16mo, 293 pages. Price, 40 cents. American Book Company.

The English Sentence. By Lillian G. Kimball, State Normal School, Oshkosh, Wis. Cloth, 12mo, 244 pages. Price, 75 cents. American Book Company.

The Listening Child. Selections from English verse. By Lucy W. Thacher. Size 7×5¼ in.; pp. xxix×108. Price, 50 cents. The Macmillan Company.

The Influence of Christ in Modern Life. By Newell Dwight Hillis, Plymouth Church, Brooklyn. Size 7¾×5½ in.; pp. xv+415. Price, $1.50. New York: The Macmillan Company.

Outlines of the History of the English Language. By T. N. Toller, The Owens College, Manchester. Size 7½×5 in.; pp. xv×284. Price, $1.10. New York: The Macmillan Company.

Sesame and Lilies. By John Ruskin. Edited by Herbert Bates, Manual Training High School, Brooklyn. Size 5¾×4¼ in.; pp. lv+230. Price, 25 cents. New York: The Macmillan Company.

MODERN FOREIGN LANGUAGES AND LITERATURES

Wilhelm Tell. By Johann C. F. von Schiller. In Four Parts. Part I. (Act I.) Editorial Critic, George Hempl, University of Michigan. The Ideophonic Texts for Acquiring Languages. Size 8×5½ in.; 239 pages. Price, $1.00. New York: Hinds & Noble.

A German Reader. With Notes and Vocabulary. By Howard Parker Jones, Hobart College. Size, 8×5½ in.; pp. xi×312. Price, $1.00. New York: D. Appleton & Co.

A Short History of French Literature. By L. E. Kastner, Cambridge, and H. G. Atkins, Greenwich. Size 7½×5½ in.; pp. xvi+312. Price, $1.25. New York: Henry Holt & Co.

Contes Choisis. La Sainte-Catherine. Par Andrè Theuriet. Paper cover; 65 pages. Price, 25 cents. New York: William R. Jenkins.

Le Duc de Reichstadt. Par Madame H. Castegnier et G. Castegnier. Avec Notes En Anglais. Paper cover; 70 pages. Price, 50 cents. New York: Wflliam R. Jenkins.

Nicoméde. Par Pierre Corneille. Edited by James A. Harrison, University of Virginia. Size 7×5 in.; pp. xxiii+152. Price, 60 cents. New York: The Macmillan Company.

HISTORY, POLITICS, ECONOMICS

The Civilization of the East. By Dr. Fritz Hommel. Size 6×4 in.; pp. xii+141. Price, 40 cents. New York: The Macmillan Company.

The Men Who Made the Nation. Outline of United States History from 1760 to 1865. By Edwin Erle Sparks. Size 8×5½ in.; pp. viii+415. Price, $2.00. New York: The Macmillan Company.

The History of Colonization. From the Earliest Times to the Present Day. By Henry C. Morris. In Two Volumes. Size 8×5½ in.; pp. Vol. I, xxiv×459; Vol. II, xiii×383. Price, $4.00. New York: The Macmillan Company.

SCIENCE

Plant Life and Structure. By Dr. E. Dennert. Size 6×4 in.; 115 pages. Price, 40 cents. New York: The Macmillan Company.

A Laboratory Manual of High-School Botany. By Frederic E. Clements, University of Nebraska, and Irving S. Cutter, Beatrice High School. Size 8×5½ in.; 123 pages. Lincoln, Neb.: The University Publishing Company.

The Elements of Astronomy. By Sir Robert Ball, University of Cambridge. Size 7×5 in.; 183 pages. Price, 80 cents. New York: The Macmillan Company.

An Elementary Experimental Chemistry. By John Bernard Ekeley. Size 7½×5 in.; pp. xii+252. Boston: Silver, Burdett & Co.

Outlines of Human Physiology. By F. Schenck and A. Gurber, Assistants in the Physiological Institute at Wurzburg. Translation from the German by William D. Zoethout. With a Preface by Jacques Loeb, University of Chicago. Size 8¾×6 in.; 339 pages. Price, $1.75. New York: Henry Holt & Co.

Elements of Astronomy. By Simon Newcomb. Cloth, 12mo, 240 pages, with illustrations. Price, $1.00. American Book Company.

The Teaching of Mathematics in the Higher Schools of Prussia. By J. W. A. Young University of Chicago. Size 7½×5 in.: pp. xiv+141. Price, 80 cents. New, York: Longmans, Green & Co.

Physical Experiments. A Laboratory Manual. By John F. Woodhull, Columbia University, and M. B. Van Arsdale, Teachers' College. Size 7½×5 in.; 112 pages. Cloth. Price, 45 cents. New York: D. Appleton & Co.

THE April *Baby's Book of Tunes* has everything in its favor. It would be impossible to find a flaw in this charming book from cover to cover. It is for the little folks, and ought to appeal to teachers in the kindergarten and the primary grades. The nursery rhymes are set to music and the excellent colored illustrations will at once enlist the interest of the children. These illustrations are particularly good. It would make an excellent gift-book for children, for the interest in it would not soon disappear. The Macmillan Company publish it at $1.50.

Quaint Nuggets—gathered from the writings of Fuller, Hall, Selden, Herbert, and Walton, by Eveline Warner Brainerd—is the latest addition to the *Nuggets* series, the "Don't Worry," the Patriotic, the Educational, the Philosophic, and the Historical having preceded it. The great charm of this volume lies in the fact that these are men of whom we read but little in our works on literature, and the very quaintness of expression and acuteness of thought make us resolve to examine more closely into the mines whence these nuggets came. This is a book for the pocket, a traveling companion whose powers of pleasing never fail. Fords, Howard & Hulbert, of New York, publish it at 45 cents.

WE have passed the time when only Methodists read the life of John Wesley. Mr. Frank Banfield, in his introduction to *John Wesley*, says. "He is plainly a man of whom every educated person should have some knowledge," and so in this recent addition to the *Westminster Biographies* we have a very interesting account of this great man and an impartial and appreciative estimate of his influence upon the social and religious life of his times. The author places Wesley in his historical setting and gives us interesting glimpses of the educational, social, political, and religious life in the England of that time. Small, Maynard & Company, of Boston, publish this in a very attractive form at 75 cents.

The Life of Ulysses S. Grant, by Owen Wister, is one of the latest additions to the *Beacon Biographies*, issued by Small, Maynard & Company, of Boston. This series deals with the lives of noted Americans just as the *Westminster Biographies*, published by the same firm, deals with noted men of Great Britain. Mr. Wister has written a calm, dispassionate, impartial life of the great general, ignoring nothing of the many things that crowded into that eventful life, and yet preserving a due proportion in regard to their importance which makes one feel that he is reading history, and not mere opinion. The books of this series are published at 75 cents each.

The Life of Andrew Jackson is the first number of "Little Studies of Great Americans," published by Houghton, Mifflin & Company. This series is of handy size, well printed, and well bound, and will be a valuable aid to the teaching of American literature and American history. Mr. William Garrott Brown has written this first number in a most interesting style, and we strongly recommend it to our high-school teachers as excellent supplementary reading. The school edition is published at 50 cents.

IN no department of school work is more advancement seen than in the supply and superior quality of the reading matter for children. New series of books are ever appearing to make the acquisition of the art of reading more easy and to introduce the child at an early age to literature that is worth while. The Werner School Book Company sends us the first reader of the series known as the *Taylor School Readers*. This is attractively printed, many of the illustrations being printed in colors, and very well executed. The author says that her chief care has been to present

such matter as is based on the child's instinctive interests, and in this she has been very successful, but we doubt the wisdom of the flamboyant patriotism of the first lessons. The first book of the *New Education Readers* of the American Book Company resembles very closely in its attractive exterior the *Taylor Reader* we have been discussing. This series is by A. J. Demarest and W. M. Van Sickle and aims to embody the best features of the phonetic, the synthetic, the word, and the sentence methods. Certainly the author can claim to belong to the eclectic school. Some good suggestions to teachers form a preface and the material or literature of the book is good following very much the same lines as the *Taylor Reader* in that the aim is to make the life of the child significant. The phonic part of the *Reader* is very suggestive and will be very helpful to the teacher. The illustrations are good and this promises to be a good series. Ginn & Company send us the first reader of the series known as the *Thought Reader* by Miss Maud Summers, of the Goethe School, Chicago. The author says that this is written from the standpoint of images, not words, and recognizes the thought as the reality, the sentence as its outward expression. The child learns to read by associating thought already acquired with the written form. Therefore the early reading matter should repeat the most familiar experiences of childhood, etc. How different this conception from that of the old readers on which we of the past generation were educated — the "is it an ox? yes it is an ox" type! There is a general resemblance in all readers. We expect to see it, but this *Thought Reader* differs decidedly from those we have been discussing. Of course the great difference will be noticed particularly in the first half of the readers — the general plan of attack. After that it is a difference of selected material. Miss Summers has some pages of introduction, just as in the *New Education Readers*, in which she explains to teachers the best way of making the book successful. This is a good book, it is thoughtful, it is sensible, it cannot be handled by a teacher or a pupil without decided benefit to both. The illustrations are good and the musical selections are worthy of special commendation. If space would permit an interesting comparison might be made between the lessons on George Washington in the *Taylor Reader* and in the *Thought Reader*. There is a certain crudeness in the lesson in the former.